EXHIBIT 1

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF NEW YORK

RACHEL COLANGELO and KATHLEEN
PARADOWSKI,
individually and on behalf of a class of
similarly situated individuals,

                    Plaintiffs,

        v.

CHAMPION PETFOODS USA, INC. and
CHAMPION PETFOODS LP,

                    Defendants.

Case No. 6:18-cv-01228

EXPERT REPORT

OF

STEFAN BOEDEKER

Managing Director, Berkeley Research Group

February 24, 2021

Table of Contents

List of Figures

List of Tables

1   Introduction

1.   In this section I present my qualifications, describe my understanding of the case background and of my assignment, before describing the materials I considered in forming my opinions.

1.1   Qualifications

2.   I am a Statistician and an Economist. I received a Bachelor of Science degree in Statistics and a Bachelor of Arts degree in Business Administration from the University of Dortmund/Germany in 1988. I received a Master of Science degree in Statistics from the University of Dortmund/Germany in 1988, and I received a Master of Arts degree in Economics from the University of California, San Diego in 1992. I also completed Ph.D. requirements (except dissertation) in Economics at the University of California, San Diego.

3.   I am a Managing Director at the Berkeley Research Group ("BRG") based at 550 South Hope Street, Suite 2150, Los Angeles, CA, 90071. Prior to joining BRG, I was a Partner at Resolution Economics. I also held Managing Director positions at Alvarez & Marsal, Navigant Consulting, and LECG. I held partner-level positions at Deloitte & Touche LLP, PricewaterhouseCoopers LLP, and Arthur Andersen LLP. At the three latter firms, I was responsible for the Economic and Statistical Consulting group on the West Coast. Before moving to the United States to attend graduate school, I worked as a statistician for the German Government from 1986 to 1989.

4.   For over 25 years, my work has focused on the application of economic, statistical, and financial models to a variety of areas. This includes providing solutions to business problems, supporting complex litigation in a consulting and expert witness role, and conducting economic impact studies in a large variety of industries including, but not limited to, healthcare, retail, grocery, manufacturing, technology, entertainment, manufacturing, automotive, energy and utilities, hospitality, and federal, state, and local government agencies.

5.   I have extensive experience designing and conducting surveys and conjoint studies, as well as statistically analyzing results from surveys in both the litigation context as a consultant and/or designated expert and the non-litigation context as a statistical or economic consultant. I

have issued numerous expert and rebuttal reports dealing with surveys, conjoint analysis, and statistical sampling related issues. I have been deposed on numerous occasions and have testified in court regarding surveys, conjoint studies, and statistical sampling-related issues.

6.   I do not have an opinion one way or the other about the allegations in this case. Instead, I have relied only on my experience and expertise in designing surveys and conjoint studies and applying economic theory and statistical methodologies based on the assumptions provided herein as to the alleged misrepresentations and/or omissions at issue in this litigation. These assumptions are grounded in the allegations made in the Second Amended Class Action Complaint, dated April 24, 2020 (the "Complaint")[1], and documents from this case provided to me by Plaintiffs' counsel.

7.   All the facts and circumstances set forth in this report are known to me personally and I am prepared to testify to them if called upon to do so. My *curriculum vitae*, which includes matters in which I have testified, is attached to this report as **Exhibit A**. BRG is being compensated for its work on this matter based on an agreed upon hourly billing rate schedule. My hourly billing rate for professional services related to this case is $750 and the hourly billing rates of BRG staff supporting me on this engagement range from $150 to $640. BRG's payment in this matter is not contingent upon my opinions or the outcome of this litigation.

1.2   Case Background

8.   The Complaint alleges that Defendants, Champion Petfoods USA, Inc. and Champion Petfoods LP ("Champion" or "Defendants"), marketed their dry dog food products using misleading packaging claims and misleading omissions, concerning the quality and characteristics of their dog food diets and the ingredients used to make them. [2]

9.   The Complaint alleges that Defendants intentionally labeled their dog food to include packaging claims that targeted consumers who were willing to pay premium prices based on

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[1]   Second Amended Class Action Complaint, Colangelo et al. v. Champion Petfoods USA, Inc. and Champion Petfoods LP, United States District Court for the Northern District of New York, Case No. 18-cv-01228-LEK-DEP, dated April 24, 2020.

[2]   Complaint, ¶1.

Defendants' representations and warranties that their dog food contained fresh, local, or regionally sourced ingredients.

10.   The Complaint alleges that these claims were misleading and fraudulently omitted that Defendants' dog foods had a risk of containing undisclosed and non-conforming ingredients and contaminants, such as heavy metals, non-fresh ingredients, non-regional ingredients, and Bisphenol A (BPA).

11.   The Complaint alleges that had Plaintiffs and putative class members in New York (the "Class") known Defendants' misleading packaging claims and material omissions, Plaintiffs and the Class would not have selected and purchased Defendants' dog food at the purchase prices paid, and certainly would not have paid a premium over non-premium dog food and hence, have been thereby damaged.

1.3   Assignment

12.   I was retained by counsel for the Plaintiffs to:

a.   Ascertain if it is possible to quantify economic losses to consumers, including Plaintiffs and the Class, attributable to the purchase of a product advertised with misrepresentations and omissions, and if so, to provide a framework for the computation of class-wide damages.

b.   Explain and outline an economic model that enables the quantification of economic losses suffered by Plaintiffs and the Class, as a result of having purchased a product that is other than as represented by Defendants.

c.   Explain and outline a statistical methodology to calculate class-wide damages if Defendants had disclosed misrepresentations and omissions at the point of purchase.

d.   Conduct an empirical analysis and apply the methodology to estimate class-wide damages.

e.   Conduct consumer analysis to verify empirically consumers' understanding of the alleged misrepresentations and omissions as well as whether the alleged misrepresentations and omissions would affect consumers' purchasing.

1.4   Materials Considered

13.   In forming my opinions for this report, I have considered the documents listed in **Exhibit B** to this report and all materials cited in the text and footnotes of this report.

1.5   Report Outline

14.   The remainder of this Expert Report is structured as follows:

a.   Section 2 describes the background to my report, including an overview of the Plaintiffs' allegations and the products at issue.

b.   Section 3 presents the theoretical framework of the economic loss model based on consideration of supply and demand.

c.   Section 4 discusses conjoint analysis as a methodology to quantify the impact of changing market conditions on consumer demand.

d.   Section 5 discusses the design and implementation of the conjoint study I conducted.

e.   Section 6 summarizes the results of my conjoint study and presents an estimate of damages per bag of Defendant's dog food.

f.   Section 7 presents an estimate of class-wide damages. In this section, due to a lack of data available from Defendant, I offer assumptions to estimate the retail revenue at issue.

g.   Section 8 presents the results of an expectation survey that gauges consumers' understanding of key terms and how misrepresentations and omissions affect consumers' propensity to purchase ceteris paribus.

h.   Section 9 summarizes my conclusions concludes that the results from a properly designed and implemented conjoint study reliably quantified class-wide economic losses and that the properly designed and implemented expectation survey measured consumers' understanding and propensity to purchase.

2   Background

15.   In the following I describe my understanding of the claims against Defendant in New York and the products at issue.

2.1   Claims Against Champion

16.   The Complaint alleges that Defendants made a number of misrepresentations and omissions on their dog food packaging. Plaintiffs' counsel instructed me to consider the following misrepresentations and omissions based on the Complaint:

    a.   Misrepresentations

        i.   Biologically Appropriate;

        ii.   Fresh Regional Ingredients;

        iii. Delivering Nutrients Naturally.

    b. Omissions

        i.   Heavy metals (Lead, Arsenic, Mercury, Cadmium);

        ii.   Bisphenol A (BPA);

        iii. Regrinds;

        iv. Expired ingredients.

2.2   Products at Issue

17.   The dog food products at issue (the "Products") are two (2) dry dog food diets[3] manufactured by Defendants and marketed and sold under Acana brand (Table 1).[4]

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[3]   In the Complaint, the term "diet" is used to refer to a dog food product variety with specific ingredient combination from a line of a brand. I follow this convention in this report.

[4]   Complaint, ¶13; Deposition Transcript of Kathleen Paradowski at 34:24-35:10, 44:24-45:4, 53:24-62:15.

Table 1: Products at Issue

Brand	Diet
Acana	Free Run Poultry
	Meadowlands

Source: Complaint, ¶13; Deposition Transcript of Kathleen Paradowski at 34:24-35:10, 44:24-45:4, 53:24-62:15.

18.   In order to estimate damages, we need to know or estimate how much consumers paid for the Products and how much they spent on the Products overall. Therefore, as data on retail sales were not available, I analyzed Defendants' historic sales and pricing data.[5] The data covers sales from July 2014 to December 2018. I analyzed sales from June 2016 to December 2018.[6]

19.   Table 2 and Table 3 below show the sales of Defendant's products by bag sizes during the analysis period. Defendant had provided the sales data in two excel files that were structured differently and contained varying descriptions. However, the data did not provide the brand (Acana or Orijen) of each item and I had to make assumptions based on the descriptions provided. I also had to make assumptions on the bag sizes. If and when the Defendant provides better data I might re-calculate the aggregated data in Table 2.

Table 2: Sales of the Products by Size, Acana, Jun 2016 – Dec 2018

Product (Diet)	Package Size in LB				Total in USD
	.75	4.5	13	25	
Free Run Poultry	237,667	1,970,474	3,387,996	15,525,479	21,121,616
Meadowlands	383,638	2,345,508	4,210,552	16,560,171	23,499,869
Grand Total	**621,305**	**4,315,982**	**7,598,548**	**32,085,649**	**44,621,484**

Source: BRG analysis on CPF0017614.xlsx and CPF0017743.xlsx.

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[5]   CPF0017614.xlsx, CPF0017743.xlsx, CPF2117040.pdf. The sales data in the two xlsx files were not structured the same and contained varying descriptions. Therefore, I made some assumptions to merge the data files into a single sales dataset and analyze sales by diet. The result of this analysis could change if more information on the data becomes available.

[6]   I understand the main class period is June 1, 2016 to the present. I analyzed sales from June 2016 to December 2018, which is the latest date of available data. Should the class period change in any way, my analysis can easily be adjusted to determine the sales for any time period.

20.   As shown in Table 2, Defendants generated approximately $45 million from sales of the Products. I understand that these revenues are revenues generated with distributors or retailers. Retail stores add a markup to the price they pay the manufacturer. Assuming a gross profit margin of 40%[7] and assuming that the data provided by Defendant is complete and accurate, consumers across the United States spent approximately $74 million on purchases of the Products.[8]

21.   Defendants did not provide information on retail sales in general and on sales to customers in New York in particular. In order to estimate sales in New York, I therefore revert to estimates published by the American Veterinary Medical Association (AVMA)[9]. Combining its own survey data with the sampling weights in the 2016 Current Population Survey, AVMA estimates that households in the United States owned 76.8 million dogs as of December 2016, including 2.858 million in New York.[10] I apply the share of New York, 3.7% in the total number of dogs, to estimate the share of the Defendants' revenues ($74 million) that is attributable to New York and, after accounting for the gross profit margin of retailers, estimate that consumers in New York spent $2.752 million on the Products from June 2016 to December 2018.

Table 3: Dog Population in U.S. and New York

Metric	United States	New York
Number of Households (1,000s)*	125,819	7,849
Percent of Households who Owned Dogs	38.4%	27.00%
Number of dog-Owning Households (1,000s)	48,255	2,116
Average Number of Dogs per Household	1.6	1.4
Dog Population (1,000s)	76,811	2,858
Share in Dog Population	100.0%	3.70%

Source: American Veterinary Medical Association (2018)

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7   The gross profit margin of pet retail stores or pet supplies industry is reported to be 35%-45% in various market research reports. For example, 35-45% in 2016-2020 (Research and Markets. (2016). *Global Pet Care Market 2016-2020.*); 38.6%-43.7% in 2016-2019 (The Risk Management Association. (2019). *Annual Statement Studies, 2019-2020.*).

8   A profit margin of 40% implies that the revenue is 1/(1-0.4), or approximately 1.67 times the cost. $45 million * 1.67 = $74 million (after rounding).

9   American Veterinary Medical Association. (2018). *Pet Ownership and Demographics Sourcebook 2017-2018 Edition.* American Veterinary Medical Association.

10   *Ibid.* p. 40.

22.   This basic estimate most likely underestimates the share of New York in total retail revenue because the estimate assumes that Defendants sell their products in all 50 states. The estimate also does not take into account income differences between states and possible differences in spending on dog food by state. While these estimates are not perfect, they are based on my best efforts with the data available. I will adjust my estimates if and when more complete data become available.

3   Theoretical Framework of Economic Loss

23.   I understand that the legal theory in this matter requires me to measure the value received versus the value perceived at the time and place of purchase.[11]

24.   As described in *Comcast*, the first step in a damages study is the translation of the legal theory of the harmful event into an analysis of the economic impact of that event.[12] Hence, in the following I first describe the economic framework in which I estimate damages in this case.

25.   The *Reference Guide on Estimation of Economic Damages* (the "Reference Guide")[13] describes the framework in which the damage to the plaintiff(s) is considered by comparing the Actual World to a hypothetical "but-for" world. Hence, defining the But-For World is key to estimating damages in many if not all litigation cases that require assessing monetary damage.

> *Because the but-for scenario differs from what actually happened only with respect to the harmful act, damages measured in this way isolate the loss of value caused by the harmful act and exclude any change in the plaintiff's value arising from other sources. Thus, a proper construction of the but-for scenario*

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[11]   Complaint, ¶163.

[12]   Comcast Corp. v. Behrend, No. 11-864 (Supreme Court of the United States.

[13]   Allen, M. A., Hall, R. E. & Lazear, V. A. (2011). Reference Guide on Estimation of Economic Damages. *Reference manual on scientific evidence*. The *Reference Manual on Scientific Evidence* assists judges in managing cases involving complex scientific and technical evidence by describing the basic tenets of key scientific fields. The Reference Manual is published by the Federal Judicial Center, the research and education agency of the judicial branch of the U.S. government.

> *and measurement of the hypothetical but-for plaintiff's value by definition includes in damages only the loss caused by the harmful act.*[14]

26.   I understand the But-For-World to be the hypothetical world, where the purchasers of Defendants' dog food products had been informed at the time and place of purchase that the packaging of the products contained misrepresentations and omissions. I analyze the But-For-World in comparison with the Actual-World, which is the state of the world that we observed.

3.1   Economic Framework

27.   In developing the economic framework, I consider a producer, who maximizes profits Π:[15]

$$[\text{Eq. 1}] \qquad \max[\ \Pi = p*D(p) - C(D(p))\ ]$$

where p is the market price, $D(p)$ is the residual demand[16] at the market price p, and $C(D(p))$ is the cost function of the producer.

28.   Based on the product rule and the chain rule for derivatives, the derivative of the profit function Π with respect to p is given by $D(p) + D'(p) - C'(D(p)) * D'(p)$, and thus the First Order Condition to find the maximum profit can be written as:

$$[\text{Eq. 2}] \qquad D(p) + D'(p)*(p - C'(D(p))) = 0,$$

where D' and C' denote the first derivatives of the demand function D and the cost function, C respectively.

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[14]   *Ibid.* p. 432.

[15]   The following derivation is loosely based on Tirole, J. (1988). *The Theory of Industrial Organization*: MIT press, p. 68.

[16]   The residual demand curve is defined as the individual producer's demand curve, which is that portion of market demand that is not supplied by other producers in the market. In other words, the residual demand function is the market demand function minus the quantity supplied by other producers at each price. See, e.g., Varian, H. R. (2010). *Intermediate Microeconomics: Modern Approach* (8th ed.), pp. 504-506.

29.   Based on this First Order Condition, the price $\mathcal{P}$ and the volume $\mathcal{D}$ in the market equilibrium of the Actual World can be determined. This market equilibrium can also be observed in the market if information on market volumes and prices is available.

30.   Next, I will frame the appropriate But-For-World. If consumers perceive the product without the claim to be inferior to the product with the claim, then the demand at a given price will be lower:[17]

$$[Eq. 3] \qquad D_{But-For}(P) < D_{Actual}(P)$$

31.   The Reference Guide on Estimation of Economic Damages asks to "isolate the loss of value caused by the harmful act and exclude any change in the plaintiff's value arising from other sources."[18] This means that a new price P^* has to be found in the But-For-World such that the demand in the But-For-World equals the demand in the actual market equilibrium where $\mathcal{D}$ and $\mathcal{P}$ represent the Actual World equilibrium demand and price, respectively:

$$[Eq. 4] \qquad D_{But-For}(P^*) = \mathcal{D}$$

32.   Again, if consumers perceive the product without the claim to be inferior to the product with the claim, then P* will be smaller than $\mathcal{P}$. The price difference $\Delta = \mathcal{P} - P^*$ is the "price premium" that the consumer would pay for the product if the statements were true. Δ is the compensation to the consumers who paid $\mathcal{P}$ in the Actual World under the assumption that the statements on the label were true.

33.   The price-premium Δ can also be described as the Pigouvian[19] subsidy that increases consumption of the product in the But-For-World to the volume $\mathcal{D}$ of the Actual-World market equilibrium.

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[17]   Later in this Report, I will introduce the survey-based methodology of Choice Based Conjoint analysis as an empirical test to assess if the knowledge of the fact that a statement is misleading will lower the demand for the product.

[18]   Allen, M. A., Hall, R. E. & Lazear, V. A. (2011). Reference Guide on Estimation of Economic Damages. *Reference manual on scientific evidence*, p. 432.

[19]   Pigou, A. C. (1929). *The Economics of Welfare* (3rd ed.): Routledge.

34.   The manufacturer's profit function in the But-For-World, which includes the compensation to be paid to the consumers $\Delta^* D_{But-For}(P^*)$ can be written as:

$$[Eq. 5] \qquad \Pi = p^* D_{But-For}(p) - C(D_{But-For}(p)) - \Delta^* D_{But-For}(p)$$

35.   Note, that the cost function C(.) is the same in the But-For-World and in the Actual World. The First Order Condition for the producer's profit maximization in the But-For-World is given by:

$$[Eq. 6] \qquad D_{But-For}(p) + D'(p)^*(p - C') = 0$$

36.   The First Order Condition in the But-For-World is different from the First Order Condition in the Actual-World. In the But-For-World, the manufacturer faces a lower demand and – if it could - would set a different price which maximizes profits. Therefore, the manufacturer would achieve a different volume in the But-For-World.

37.   However, setting new profit-maximizing prices and volumes sold would contradict the postulate of the *Reference Guide on Estimation of Economic Damages* that the But-For-World should only correct for the harmful act. Allowing the profit-maximizing producer to change the product's volume sold after disclosing the mislabeling in the But-For-World would lead to a lower equilibrium volume in the But-For-World than in the Actual-World. The manufacturer's profit is irrelevant in false advertising cases, where only the value perceived versus the value received by consumers must be considered.[20] Hence, there is no need for information on the cost structure of the manufacturer or the shape of its supply function.

38.   All solving [Eq. 4] requires is information on the shape of the But-For demand curve in the But-For-World.

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[20]   Note, that in patent infringement cases, and depending on the perspective, the profit of the patent holder or the profit of the patent infringer are the relevant variable to be analyzed in the But-For World. See Allenby, G., Rossi, P. E., Cameron, L., Verlinda, J. & Li, Y. (2017). Calculating Reasonable Royalty Damages Using Conjoint Analysis. *American Intellectual. Property Law Association Quarterly Journal, 45*(2), 233-254. and Cameron, L., Cragg, M. & Mcfadden, D. (2013). The Role of Conjoint Surveys in Reasonable Royalty Cases. Retrieved from https://www.law360.com/articles/475390/print?section=ip. However, patent litigation builds on a different underling legal framework than false advertising cases. Therefore, applying the same economic analysis as in patent cases would not be appropriate in false advertising cases.

39.   In this case, the number of bags of Dog Food that Defendants would have supplied and sold if in the But-For-World is the same as in the Actual World because the Reference Guide requires the expert to assume that "*the but-for scenario differs from what actually happened only with respect to the harmful act, damages measured in this way isolate the loss of value caused by the harmful act and exclude any change in the plaintiff's value arising from other sources.*"[21]

40.   I interpret the *Reference Guide* to require that I do not consider changes to the supply in the But-For World and that I consider that the supplied volume is the same in the But-For-World as in the Actual-World. Or in other words, the supplied volume in the But-For World cannot deviate from the actually supplied volume in the Actual World. Hence, the supply in the But-For World is fixed at the number of units sold in the Actual-World.

41.   Figure 1 presents this analysis graphically: Point A in Figure 1 is the market equilibrium in the actual world with the equilibrium price P^* and the equilibrium volume D^* on the Actual-World demand curve. The But-For demand curve is below the Actual-World demand curve as the disclosure at the point and time of purchase makes the product less attractive to consumers. Hence, for a given volume, consumers are willing to pay a lower price in the But-For-World with disclosure than in the Actual-World without disclosure. To fully compensate all purchasers for their economic losses, it is necessary to find the price point on the But-For World's demand curve that ensures that the same number of units that were sold in the Actual-World would also be sold in the But-For World. We move along the But-For demand curve (orange demand curve in Figure 1 below) until the volume sold is equal to the volume sold in the Actual-World (D* in Figure 1 below). Point B on the But-For demand curve gives us the price at which purchasers would have purchased the volume D* in the but-for world knowing at the time and place of purchase that the manufacturer's claim was false. The vertical distance Δ between points A and B is equal to the compensation required to make all purchasers whole.

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[21]   Allen, M. A., Hall, R. E. & Lazear, V. A. (2011). Reference Guide on Estimation of Economic Damages. *Reference manual on scientific evidence*, p. 432.

Figure 1: Shifted Demand and Economic Loss
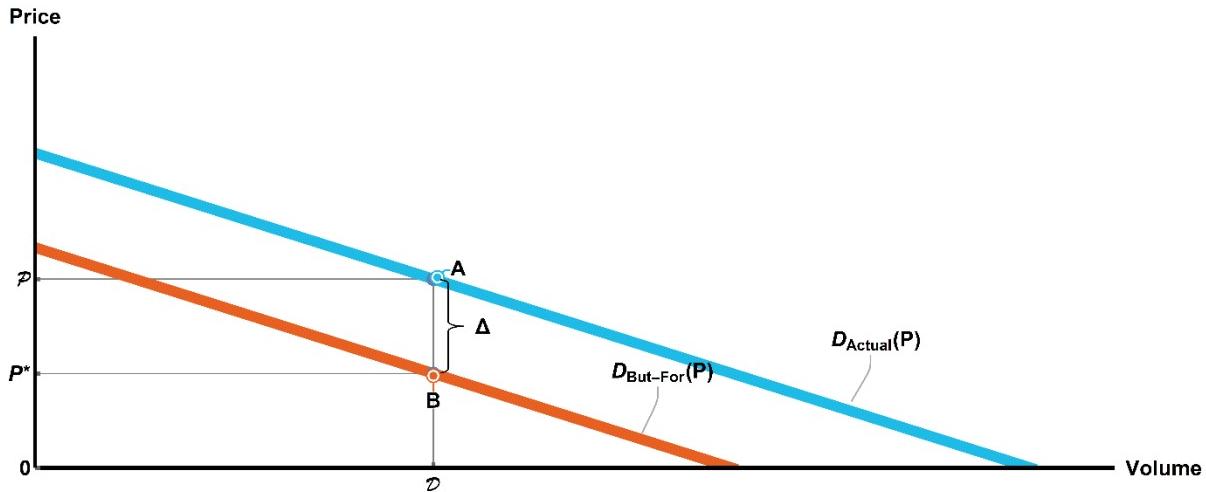
Source: Illustrative Example

42.   In my economic loss model, the But-For demand curve will be empirically determined based on a survey Choice Based Conjoint ("CBC") analysis, which I will discuss in detail in the next Section.

43.   The economic loss could be determined based on the willingness-to-pay of each class member. Analytically, this would be the area between the demand curve in the actual world and the demand curve in the But-For World. However, this is not how I estimate class-wide damages. In my approach, only the willingness-to-pay of the marginal consumer who determines the market equilibrium in the actual world enters the economic loss calculation.

3.2 An Application of the Economic Framework to False Advertising Cases

44.   I will now apply the economic framework explained above to an illustrative example related to false and misleading advertisements.

45.   Let us assume the following:

a. XYZ, Inc. sells 1,000 units of Product A for $50 using a statement claiming that Product A has Attribute X.

b. Attribute X is a desirable attribute.

c. Consumers view Product A with Attribute X as superior to an otherwise identical product without Attribute X.

d. The resulting market price for Product A with Attribute X will be higher than the market price for an identical product but without Attribute X, or in other words, the demand curve for the product without Attribute X is below the demand curve for the product with Attribute X.

e. XYZ, Inc. advertised its Product A as having the desirable attribute X without disclosing to the consumers that Product A does not have Attribute X.

f. At some point, XYZ, Inc. discloses that its Product A does not have and never has had the desirable Attribute X.

g. Subsequently, a consumer class action is filed alleging that XYZ, Inc. falsely claimed that Product A has Attribute X.

h.   The Plaintiffs in the class action lawsuit claim that they would not have paid $50 for Product A had they known at the point of purchase that the product does not have Attribute X as claimed by XYZ, Inc. Consequently, XYZ, Inc. increased its revenue and profits at the expense of the consumers who paid $50 for Product A thinking that it has Attribute X. At issue in the consumer class action are the 1,000 units of Product A that were sold before it was disclosed that Product A does not have Attribute X.

46.   In the following paragraphs, I will refer to the situation where 1,000 consumers bought Product A for $50 expecting that it has Attribute X as advertised as the "Actual-World." In contrast, I will refer to the situation where the consumers are informed at the point of purchase that Product A does not have Attribute X as the "But-For-World."

3.2.1   Modeling the "But-For-World"

47.   Following the above cited reasoning in the *Reference Guide on Estimation of Economic Damages*[22], the Actual-World is the world where XYZ, Inc. (now the Defendants in the class action lawsuit) concealed the fact that Product A does not have Attribute X, and where XYZ, Inc. sold 1,000 units at $50; while the But-For-World is the hypothetical world where the Defendants

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[22]   See Footnote 13.

would have disclosed the truth (i.e., Product A does not have Attribute X) to consumers at the point of purchase. The question now becomes at what price would have 1,000 units of Product A sold after the disclosure.

48.   If consumers view Product A without Attribute X as inferior to Product A with Attribute X, then their demand for Product A without Attribute X will shift downward, all else, resulting in lower volumes sold at any given price. If the market price for Product A without Attribute X is lower than $50 after the disclosure that Product A does not have Attribute X, then every consumer who bought Product A in the Actual-World with the belief that it has the desirable Attribute X at $50 will have overpaid, and thus suffered an economic loss.

49.   To determine the economic loss, one needs to estimate the demand curve in the hypothetical But-For-World. If the demand curve in the But-For-World shifts downward because Product A without Attribute X is less desirable then the shift of the demand curve would result in a lower market price and/or a lower transaction volume in the But-For World. In other words, Defendants' misrepresentation in the Actual-World about Product A having Attribute X, may have induced more consumers to purchase Product A at a higher price. Therefore, the relevant measure for the economic loss is the downward shift in demand in the But-For-World evaluated at the quantity sold in the Actual-World.

3.2.2   Consideration of the Supply Side in the But-For-World

50.   In the But-For-World, the consumers know at the point of purchase that Product A does not have Attribute X, which makes Product A less desirable to them. Consequently, they would pay a lower price for the product in the But-For-World. Consumers who bought in the Actual-World assuming that Product A does have Attribute X thus overpaid, and need to be compensated for the loss of utility they experienced from not getting Product A with Attribute X. This can only be achieved by determining the reduced price at which 1,000 consumers would have purchased in the But-For-World, and providing purchasers with a compensation that effectively shifts the But-For demand curve up into the market equilibrium of the Actual World.

51.   The shape of the supply curve(s) in the Actual-World and in the But-For-World is irrelevant for the quantification of economic damages because the focus is to determine a price in the But-For-World for the units sold in the Actual-World. In other words, the focus is on the same

volume point on the two demand curves. In both the Actual-World and the But-For-World, the Defendants will incur the same marginal costs for producing and selling Product A. Moreover, in the But-For-World, Product A will simply no longer be sold as having Attribute X, and therefore, the But-For-World is defined as differing from the Actual-World only by virtue of the disclosure that Product A does not have Attribute X.

52.   If the demand curve shifts downward in the But-For-World after disclosing that Product A does not have Attribute X, then all consumers who bought Product A in the Actual-World overpaid, and therefore, the 1,000 units of Product A sold in the Actual-World are pertinent to the computation of Class-wide damages.

3.2.3   Determination of Economic Loss

53.   To determine how much the demand curve would shift when it is revealed that Product A does not have Attribute X, the price paid in the Actual-World has to be compared to the price the consumers would have paid for Product A without Attribute X in the But-For-World.

54.   For example, if the price point for selling 1,000 units in the Actual-World is $50 and the price point for selling 1,000 units in the But-For-World is $30, then difference of $20 is the amount that will compensate each consumer for the amount they overpaid for a unit of Product A, as a result of Defendants concealing the fact that Product A does not have Attribute X.

55.   Each consumer who bought Product A with the understanding that it has Attribute X in the Actual-World has to be made whole because they overpaid for the product. Total damages for those consumers equal the per unit price difference of Product A sold in the Actual-World (Product A has Attribute X) and in the But-For-World (Product A does not have Attribute X) multiplied by the total number of units of Product A purchased by consumers in the Actual-World.

56.   The approach to estimating class-wide economic damages introduced in this Section appropriately focuses on the single class-wide compensation that would be required to clear the market if the misrepresentations had been disclosed to members of the putative class at the point of purchase.

57.   The class-wide economic loss is the product of this compensation and the number of units sold by Defendants in the Actual-World.

3.3   Consideration of Alternative Damage Theory That Allows the Manufacturer to Maximize Profits in the But-For World

58.   In Figure 2 we explore further the argument that the relevant but-for price should be on the supply curve by assuming constant cost per unit over the relevant range of output in the actual world, resulting in a horizontal supply curve. In this case, the equilibrium price in the but-for world at the intersection of supply and demand (Point C) is the same as in the actual world (Point A), resulting in zero economic loss per unit. However, fewer class members would have purchased at this price in the but-for world. Hence, this approach does not provide restitution for all class members. Restitution for all class members can only be achieved if the price premium is calculated as the difference between the actual and the but-for demand for the quantity sold in the actual world. This is the difference between the prices in Point A and Point B in Figure 1 and Figure 2.

Figure 2: Actual and But-for Demand & Supply In False Advertising Cases With Horizontal Supply
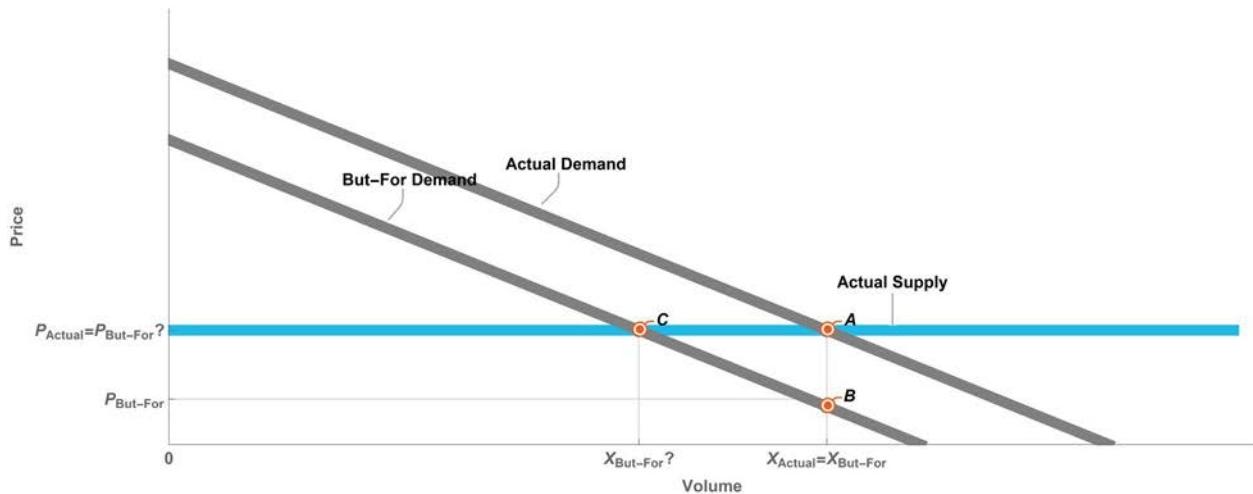
Source: Illustrative Example.

4   Conjoint Analysis

59.   In this Chapter, I describe Choice-Based Conjoint ("CBC") analysis with subsequent market simulations which is a reliable methodology to test empirically whether the disclosure that a particular statement is false and/or misleading leads to a downward shift of the demand curve.

Stefan Boedeker Expert Report   17   CONFIDENTIAL

CBC builds on the statistical methods of Hierarchical Bayesian Estimation ("HBE") and Mixed Logit Models ("MLM") to quantify consumer preferences and to calculate choice probabilities for the Product bundles included in the CBC study.

4.1   Introduction

60.   It appears to be a simple task to ask class members directly, how much they would have paid for the Products at Issue had they known at the point and time of purchase that the packaging contained misrepresentations and omissions. However, class members – in particular if they know that they are part of the class – are likely to respond strategically and to overstate the loss they have incurred by the misrepresentations and omissions. In order to avoid or reduce strategic responses, researchers designed conjoint analysis that hide the true purpose of the research from the subjects of the research.

4.2   Overview of Conjoint Analysis

61.   The general idea behind conjoint analysis is that consumers' preferences for a particular Product are driven by attributes, features or descriptions/advertisements of attributes/features embodied in that product.[23]

62.   CBC studies allow one to predict the share of respondents that would have chosen a specific product as described by the attribute levels.[24] Based on these estimations, it is possible to simulate ceteris paribus:

   a. how a change in price changes the propensity to purchase, and

   b. how demand changes if product attributes change.

   c. CBC thus can determine the difference in value (measured in dollars or as a percentage of the purchase price in the Actual-World) that customers place on Products without misrepresentations and without omissions compared to an otherwise identical product with misrepresentations and with omissions.

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[23]   Lancaster, K. J. (1966). A New Approach to Consumer Theory. *Journal of political Economy, 74*(2), 132-157.

[24]   Allenby, G. & Rossi, P. (2006). *Hierarchical Bayes Models,‖ in the Handbook of Marketing Research: Uses, Misuses, and Future Advances, R. Grover, Ed., and M. Vriens, Ed*. Thousand Oaks: Sage Publications.

63.   Conjoint analysis is widely used in market research and is discussed in depth in the market research literature.[25] Bryan Orme, the founder of Sawtooth software for conjoint analysis, estimates that over 18,000 commercial applications of conjoint analysis take place each year.[26] For example, Vithala Rao's book, *Applied conjoint analysis*, and Bryan Orme's book, *Getting Started with Conjoint Analysis: Strategies for Pricing Research*, provide numerous examples of the widespread use of conjoint analysis including, but not limited to, several high-profile applications by large corporations and large public agencies such as (i) Microsoft for pricing newly released hardware products, (ii) Proctor & Gamble for consumer-goods pricing and new product development, (iii) Marriott Corporation for the development of the Courtyard hotel brand, (iv) AT&T for developing optimal cellular plans and (v) the development of the EZ-Pass electronic toll collection system by regional transit agencies in New York and New Jersey in the 1990s.[27]

64.   Using survey data, conjoint analysis is a set of econometric and statistical techniques that have been developed to study consumers' decision-making processes, determining trade-offs between products, features, and price, as well as quantifying consumers' gains and/or losses of utility when choosing between different alternatives. By simulating real world and/or hypothetical choices between product features and prices under different levels of information, conjoint analysis is ideally suited to model the impact of different choice scenarios on a consumer's utility function. Conjoint analysis has been accepted as a methodology sufficient to measure class-wide damages in other deceptive advertising cases and in product defect cases across the country.[28]

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[25]   See, for example, Rao, V. R. (2014). *Applied Conjoint Analysis*: Springer.,Orme, B. K. & Chrzan, K. (2017). *Becoming an Expert in Conjoint Analysis*: Sawtooth Software, Inc.

[26]   Orme, B. K. (2014). *Getting Started with Conjoint Analysis: Strategies for Product Design and Pricing Research* (3rd ed.). Manhattan Beach, CA: Research Publishers LLC, p. 143.

[27]   *Ibid*. pp. Foreword, Chapters 4.2, 14.11, and 14.18.

[28]   See e.g., *In Re Arris Cable Modem Consumer Litigation*, No. 5:17-CV-01834-LHK, 2018 U.S. Dist. LEXIS 136617 (N.D. Cal. Aug. 10, 2018); *Khoday v. Symantec Corp*., 93 F. Supp. 3d 1067, 1082 (D. Minn. 2015). *See also TV Interactive Data Corp. v. Sony Corp*., 929 F. Supp. 2d 1006, 1026 (N.D. Cal. 2013); *Sanchez-Knutson v. Ford Motor Company*, 181 F. Supp. 3d 988, 995 (S.D. Fla. 2016); *Dzielak v. Whirlpool*, 2017 WL 6513347 (D.N.J. Dec. 20, 2017); *In re ConAgra Foods, Inc*., 90 F. Supp. 3d 919 (C.D. Cal. 2015); *In Re Dial Complete Marketing and Sales Practice Litig*., 320 F.R.D. 326 (D.N.H. 2017); *Fitzhenry-Russell v. Dr. Pepper Snapple Group, Inc.*, No. 5:17-cv-00564, (N.D. Cal., June 26, 2018); *Theodore Broomfield, et al. v. Craft Brew Alliance, Inc*., No. 5:17-cv-01027-BLF (N.D. Cal., Sept. 25, 2018); *Hasemann v. Gerber Products Co*., No. 15-cv-2995MKBRER (E.D.N.Y. Mar. 31, 2019).

65.   The data required for a conjoint analysis is collected through a survey where study participants are shown several product profiles with different levels of each attribute. The survey participants are generally consumers who currently are, or recently have been, in the market for the product of interest. After reviewing a set of choice menus of product attributes and their levels, survey participants are then asked to indicate their preferences for those profiles. The product profiles include choice options for different price points for each set of features on the choice menu.

66.   After the completion of the CBC study, conjoint analysis uses data from the survey on the attribute levels of the product profiles shown and the stated preferences for one choice set over another to decompose the respondents' preferences for the product into the partial contribution of these attribute levels or part-worths to the overall product utility using appropriate statistical methods, more specifically Hierarchical Bayesian Estimation and Mixed Logit models. These advanced statistical techniques will be discussed in more detail in Section 4.3 below. These statistical estimation techniques quantify the part-worths for attribute levels such that the resulting estimated part-worths best predict respondents' preferences or choices as a whole based on their CBC study responses. By summing the respondents' part-worths for different attribute levels, one can determine the share of respondents that would have purchased the product made up of the different levels of each attribute at a given price. By varying the price, we can estimate a demand curve for a specific product.

67.   The price reduction needed to compensate for the loss of a feature (or the incremental price consumers would pay for the inclusion of a feature) can then be estimated, and a variety of choice situations and trade-offs between choices can be modeled, along with a precise quantification of their outcomes. The precision, and thus the reliability, of the resulting estimations depends on the number of survey participants. The more respondents that take part in the survey, the more precise the resulting predictions will be. However, adding more respondents to a survey is costly and the marginal benefit of adding respondents to a survey is declining. In Section 5.1.2, I describe a rule of thumb on how many respondents to include in a conjoint survey.

4.3   Statistical Estimation Techniques Utilized in CBC Studies

68.   After the completion of the survey, the conjoint analysis uses data from the survey to decompose the respondents' preferences for a product into the part-worths of its attribute levels using appropriate statistical methods. The statistical models to be used in my analysis, Mixed Logit Models and Hierarchical Bayesian Estimation ("HBE"), are widely employed in economics and marketing research to analyze preferences over a discrete set of choices.[29] These statistical estimation techniques quantify the part-worths for feature levels such that the resulting estimated part-worths best predict respondents' preferences or choices from the survey. By adding up the part-worths by each respondent at the different attribute levels, one can determine the share of respondents that would have purchased the product made up of the different levels of each attribute and a given price.

69.   Mixed Logit models are based on the idea that each consumer assigns a utility to each choice, and this utility measures the attractiveness of each choice. These utility values are correlated with the attributes of the actual choice (e.g., products with a misleading claim) and the price associated with that choice. The utilities can be correlated with observable characteristics of the consumers making the choice (such as their age or income).

70.   The utility of each product consists of two components – a deterministic component and a random component. The deterministic component can be modeled by observable factors such as socio-economic and demographic characteristics of the consumers, product features, and market conditions. In general terms, the random component, by contrast, summarizes all the unobservable factors in the individual consumer's choice process. In Mixed Logit models, the random component is expressed through a logistic distribution function. Together with the observable factors, this distribution function is used to predict the probability that a particular consumer choice is made.[30]

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[29]   *See,* for a detailed discussion, Orme, B. K. & Chrzan, K. (2017). *Becoming an Expert in Conjoint Analysis*: Sawtooth Software, Inc., Chapter 10.

[30]   *See*, for example: Rao, V. R. (2014). *Applied Conjoint Analysis*: Springer., Chapter 4, for a detailed discussion of the use of mixed multinomial logit models in choice based conjoint studies.

71.   Bayesian statistics is a field of statistics where the underlying model parameters are assumed to be random variables rather than fixed quantities. Bayesian modelling is based on assigning prior probability distributions to any unknown parameters. In this case, the unknown parameters to be estimated are the part-worths of the attributes of a composite product derived from the choice sets in the conjoint analysis. These parameters are estimated by a technique referred to in the literature as Hierarchical Bayesian Estimation ("HBE").[31]

72.   In HBE, the parameter estimates are derived in a two-step hierarchical approach. At the higher level, the individual consumers' part-worths are assumed to follow a specified distribution (like multivariate normal distribution or log-normal distribution). At the lower level, it is assumed that the individual consumers' choice probabilities can be described by a model, such as a Mixed Logit model. Initial estimates of part-worths are estimated for each study respondent as a starting point. New estimates are updated using an iterative process called "Gibbs Sampling" and "Metropolis Hastings Algorithms."[32] This process is typically repeated thousands of times whereby at each iteration, an estimate is made for each parameter, conditional on current estimates of the others. After many iterations, this process converges to the correct estimate for each of the parameters.

73.   The HBE method combines random effect specifications at the aggregate level to account for variation across individuals and specific modelling of choice probabilities at the individual level. With market simulations, the performance of competing alternatives can be evaluated.

74.   The software program Sawtooth[33] is a commercially available and highly regarded software to compute part-worths for the attribute and its levels for each attribute in the study. The Sawtooth software applies the Hierarchical Bayesian Estimation technique explained above to compute individual part-worths for each respondent and aggregate part-worths for all levels and

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[31]   *See Ibid.* Chapter 4.11, for a detailed discussion of the use of Hierarchical Bayesian Estimation in choice based conjoint studies.

[32]   *Ibid.* p. 168.

[33]   Sawtooth software is a world leader in market research for conjoint analysis providing powerful tools for measuring how consumers value features of a product or service. For more information, see www.sawtoothsoftware.com/.

attributes in the study. The Sawtooth software allows the researcher to test different model specifications.

75.   The Sawtooth software allows the researcher to "smooth" the part-worth estimates in a way that higher price levels for a specific attribute combination are always associated with a lower part-worth value. This feature ensures that, not only are aggregated consumer choices used, but that individual consumer choices are also always associated with decreasing utility values for increasing prices. When using a monotonicity constraint, the demand curves are smoother, and therefore, the resulting market simulations have fewer extreme data points which makes them more robust.

76.   Furthermore, advanced statistical methods can be applied to compute model-based approximate confidence intervals for well-designed and well-balanced non-probability samples. In 2016, the American Association of Public Opinion Research ("AAPOR") issued a guidance paper on "Reporting Precision for Nonprobability Samples"[34] which details approaches and reporting guidelines for precision calculations performed for non-probability samples. For the statistical analysis of the data obtained through the CBC study, I will apply one of the recommended methods to obtain precision estimates and approximate confidence intervals at the customary 95% level for the results of the study. The bootstrapping methodology and the use of non-parametric percentile-based approaches have been endorsed as valid approaches by AAPOR.[35] Furthermore, the aforementioned Sawtooth Software also allows for a non-parametric approach in computing confidence intervals.

4.4   Measuring the Value of a Level of an Attribute Using CBC

77.   The following steps explain the mechanics of how the results of a CBC study can be used to determine the value of an attribute.

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[34]   AAPOR Guidance on Reporting Precision for Nonprobability Samples -
https://www.aapor.org/getattachment/Education-Resources/For-
Researchers/AAPOR_Guidance_Nonprob_Precision_042216.pdf.aspx

[35]   https://www.aapor.org/getattachment/Education-Resources/For-
Researchers/AAPOR_Guidance_Nonprob_Precision_042216.pdf.aspx.

78.   Based on the part-worths derived from the CBC study, I can calculate the share of study participants who would have purchased a certain product with one of the possible attribute level combinations at a given price.

79.   In the example presented in Figure 3 below, 45% of study participants would buy Product A without the desirable Attribute X for $30.00.

80.   If I now add the desirable Attribute X to Product A, all else equal and without changing the price, I move up vertically and 80% of study participants would buy Product A.

81.   All else equal, if the price for Product A with Attribute X was increased to $50, the percentage of study participants choosing Product A with the desirable Attribute X drops to 45%, which was the same percentage of study participants who bought the Product A without the desirable Attribute X for $30.00.

82.   Any further increase in price would make fewer study participants choose Product A with the desirable Attribute X. In an economic sense, the CBC study has shown that consumers are indifferent between buying Product A without the desirable Attribute X at $30.00 and buying the otherwise identical product with the desirable Attribute X at $50.00. This implies that the value of the desirable Attribute X to consumers is $20.00 ($50.00 minus $30.00).

Figure 3: Measuring the Value of a Level of an Attribute Using CBC Analysis
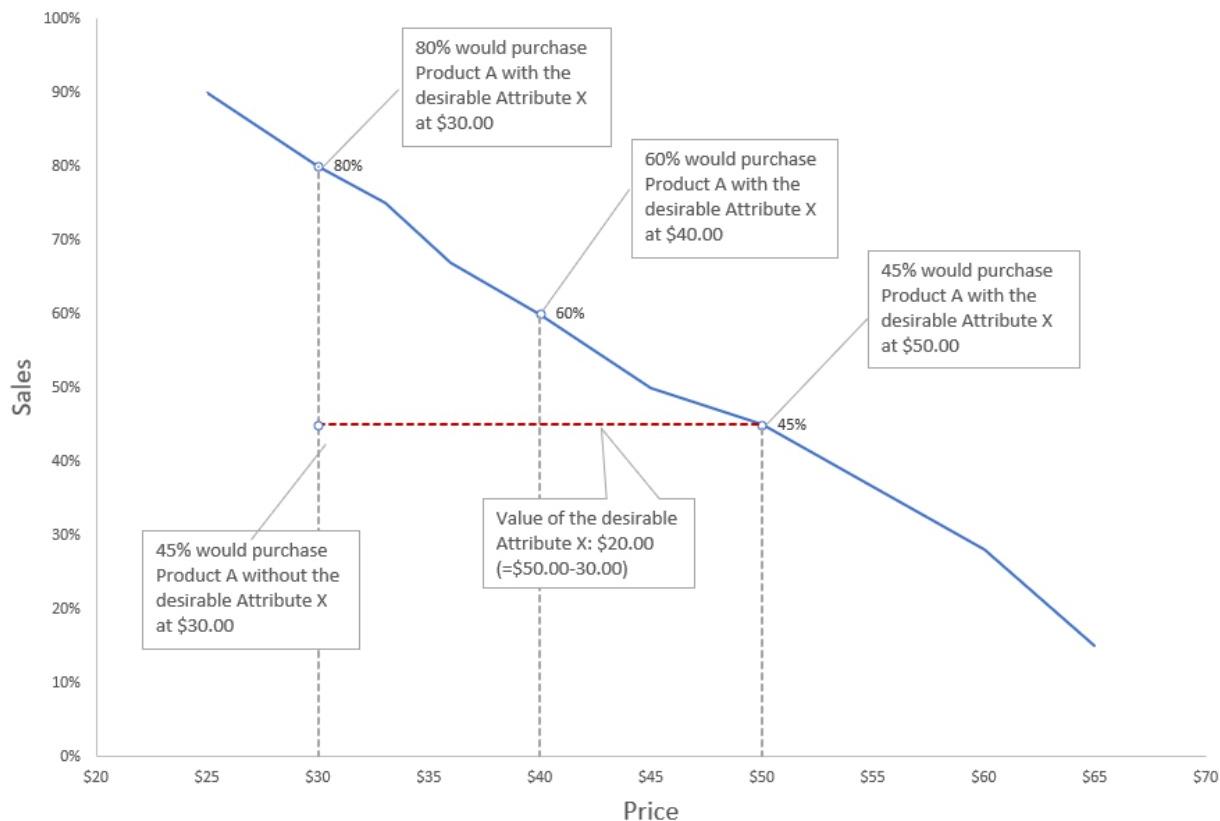
Source: Illustrative Example

83.   The calculation described above essentially finds the intersection between

    a. The curve representing the decreasing share of respondents who would have purchased Product A with the desirable Attribute X, and

    b. The horizontal (dotted red) line representing the share of respondents who would have bought the otherwise identical Product A without the desirable Attribute X.

84.   In more general terms, using the results from the CBC study, the value of each attribute can be determined as follows:

    a. Find the share of study participants S_{wo} who would pay Price P_1 for a product without the attribute.

b.   Add the attribute and calculate the share of study participants S_w who would buy the Product at price P_1.

c.   Incrementally increase the price until you find the price P_2 for which the share of respondents buying the product with the attribute (S_w) equals the share of study participants buying the product without the attribute (S_{wo}).

d.   The difference P_2 minus P_1 provides a reliable estimate of the value of the attribute.

4.5   Constructing Demand Curves

85.   By using the individual part-worths, it is possible to estimate the share of respondents who would purchase a specific combination of attribute levels used in the conjoint survey. By varying the price levels while keeping all other attributes constant, we can determine the demand curve for any specific combination of product attributes and their levels as part of a market simulation.

86.   I estimate a regression function in which the price is a function of the attribute levels and the share of respondents who would have purchased this particular attribute level combination.

87.   By changing the level of one attribute, for example for the attribute level "may contain measurable amount of Heavy Metals" and "does not contain Heavy Metals", while keeping all other attributes constant, we can compute two demand curves:

a.   the Actual-World demand curve for a product without a label that says the product may contain heavy metals, and

b.   the But-For demand curve for the same product but with a label that says the product may contain heavy metals.

88.   If for a given volume the two demand curves result in different prices, one can then determine the compensation purchasers would require so that the number of products sold in the Actual World and the But-For-World remains unchanged.

89.   To assess the robustness of the demand curve estimation under a variety of market conditions, I performed a comprehensive market simulation study. In my market simulations, I used all variations of the attributes and levels defined in the conjoint study to test if economic damages exist.

90.   Market simulations[36] are necessary to convert the part-worths from the conjoint study into reliable monetary measures reflecting consumer preferences and choices. These monetary measures will ultimately be utilized to test and quantify how changes in an attribute will affect the value that consumers put on that attribute. In general, different permutations of product attributes and levels of those product attributes are applied in a market simulation to assess the respondents' choice probabilities for different combinations of product attributes and the resulting economic loss. This approach allows to estimate the value of each attribute individually and in combination with other attributes in the conjoint study.

4.6   Market Estimates vs. Individual Economic Loss

91.   My model is designed to provide market-wide estimates of economic loss. Sawtooth estimates part-worths for each participant in the study. Therefore, it could be tempting to estimate economic loss at the individual level. As I discuss in the following, such analysis will provide unreasonable results and would not be reliable.

92.   It is well-established that individual level part-worth estimates of conjoint models are not reliable at the individual level and that results should only be considered at the aggregate level, as summarized by Brian Orme, one of the authors of the Sawtooth conjoint software which I rely on in my analysis[37]:

> *Since the late 1990s, hierarchical Bayes has permitted individual-level estimation of part-worth utilities from CBC data. But to compute individual-level models, HB uses information from many respondents to refine the utility estimates for each individual. Therefore, one usually does not calculate utilities [part-worths] using a sample size of one.*

93.   Or as Hauser & Rao (2004) explain[38]:

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36   Orme, B. K. & Chrzan, K. (2017). *Becoming an Expert in Conjoint Analysis*: Sawtooth Software, Inc., Chapter 10.

37   Orme, B. K. (2014). *Getting Started with Conjoint Analysis: Strategies for Product Design and Pricing Research* (3rd ed.). Manhattan Beach, CA: Research Publishers LLC, p. 68.

38   Hauser, J. R. & Rao, V. R. (2004). Conjoint Analysis, Related Modeling, and Applications. In *Marketing Research and Modeling: Progress and Prospects* (pp. 141-168): Springer, p. 18.

> *[…] while consumers are heterogeneous, there is information in the population distribution that can be used to constrain the estimates of the partworths for each respondent. […] The researcher does not attempt to estimate point-values of the partworths, but endeavors to fully characterize the uncertainty about those estimates (mean and posterior distribution).*

94.   While these quotes make a strong argument not to rely on individual estimates, in the following, I illustrate further why individual estimates are not reliable.

95.   For example, one of my conjoint surveys explained in the later sections contains six attributes. Five attributes are binary and the sixth attribute, price, has five levels. Therefore, the survey includes 160 permutations[39] of the attributes. Based on my survey design, each respondent sees 15 screens with two choices on each. Hence, each respondent sees a total of 30 combinations of the six attributes in the conjoint survey. That means that each respondent sees only 18.8%[40] of all possible permutations. It would therefore be very difficult to predict whether a specific respondent would choose a particular attribute combination over another attribute combination that this respondent has not actually seen in her survey and for which we have not collected any data. In order to properly predict how a specific respondent would choose between two choice sets, we would need to have each respondent go through many more choice sets – a tiring exercise for each respondent and not necessary for the purpose of my research.

96.   We are interested in how the market overall would react to a change in the attributes of a product. We are not interested in the probability of each individual survey participant purchasing all possible attribute combinations.

97.   Estimating the share of respondents who would purchase a particular attribute combination does not require precise predictions for each individual respondent. By estimating a share at the aggregate level, we are able to provide an estimation that – in the aggregate – is reliable.

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[39] $160=2 \times 2 \times 2 \times 2 \times 2 \times 5$.

[40] $18.8\% = 30/160$.

98.   This approach is analogous to the use of statistical sampling to predict consumer behavior in general. No sampling-based model designed to predict consumer behavior would make predictions based on a sample size of one consumer because such a model would fail to predict market-wide consumer behavior and preferences.

5   Design and Implementation of CBC Study for Economic Loss Calculations

99.   In this chapter I discuss the design and implementation of my CBC study. I describe technical design details, criteria for choosing attributes, the implementation of the CBC study and the pre-test I conducted to ensure the survey provided reliable results.

5.1   Technical Design Details

100.   In this Section, I discuss the technical design details that I implemented to make my CBC for economic loss calculations reliable.

5.1.1   CBC Study Design

101.   The CBC methodology employed in the conjoint survey randomly assigns choices from all possible choice permutations with equal likelihood and with uniform frequency of each level of each attribute and each pair of attribute/level permutations. That is, the CBC design is *balanced* and *orthogonal*. Balanced and orthogonal surveys are commonly employed in CBC.[41] The importance of an orthogonal and balanced design lies in the fact that designs of this type are 100% efficient. Efficiency implies that the resulting estimations have the smallest mean squared error out of all possible designs.[42] The mean squared error measures the level of variation and, as such, the precision of the resulting estimates. The smaller the mean squared error of an estimate the more precise it is. As such, efficiency of a design is a measure of the information obtained from a design. Therefore, more efficient designs imply more reliable results.[43]

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[41]   Bakken, D. & Frazier, C. L. (2006). Conjoint Analysis: Understanding Consumer Decision Making. In *The Handbook of Marketing Research* (pp. 607-670). Thousand Oaks: Sage Publications, Inc. Chapter 15.

[42]   The mean squared error (MSE) is calculated as the average of the squared distances between the estimator and what is estimated, or the "errors." Efficient designs are ones that minimize the MSE.

[43]   The standard error is the standard deviation of the sampling distribution of a statistic. A smaller standard error implies a smaller margin of error, which results in a tighter confidence interval around an estimate.

102.   Based on a review of relevant materials, including but not limited to product packaging and sales data, I designed and performed a total of two conjoint surveys:

   a.   Acana Misrepresentation Survey;

   b.   Acana Omission Survey.

103.   In Section 2.2, I showed the results of my analysis of the Products' sales during the analysis period (see Table 2). Based on this analysis, I chose one Acana-brand Product with the highest revenue and/or the named plaintiff purchased as the products for my misrepresentations survey: Acana Regionals Meadowland with Free-Run Poultry, Freshwater Fish, and Nest-Laid Eggs Dry Dog Food 25lb ("Acana study product", see Table 2). To demonstrate that economic loss can be estimated for different package sizes, I chose 25lb as this size generated most revenue.

5.1.2   Sample Size

104.   Orme[44] recommends that the survey sample size should be computed according to the following formula:

$$\frac{nta}{c} \geq 1,000$$

105.   Where n is the number of respondents, t is the number of choice sets (15), a is the number of alternatives per set (2) and c is the maximum number of levels in any attribute (5). Entering the chosen values for each variable shows that n should be greater than 167:

$$\frac{n*15*2}{5} \geq 1,000 \text{ or } n \geq \frac{1,000*5}{15*2} = 166.67$$

106.   In each of my surveys, I decided to include 167 respondents from New York and between 398 and 417 participants from the remainder of the United States, well exceeding the minimum number of respondents that Orme[45] recommends. In total, my four surveys included 2,375 respondents (Table 11).

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[44]   Orme, B. K. & Chrzan, K. (2017). *Becoming an Expert in Conjoint Analysis*: Sawtooth Software, Inc, p. 96.

[45]   *Ibid*.

5.1.3   Target Population

107.   I understand that the Class in this case will be defined as all persons who reside in the State of New York who, from June 1, 2016 to the present, purchased Acana dog food products at issue in the State of New York for household or business use, and not resale.

108.   To select a sample that adequately represents the class members, survey respondents were only included in the survey if they met the following criteria:

    a.   Respondents are 18 years or older;

    b.   Respondents live in the United States;

    c.   Respondents or a close family member are not working in advertising agency or market research;

    d.   Respondents or a close family member are not working for a company that manufactures or sells dog food;

    e.   Respondents have had at least one dog in the past 3 years;

    f.   Respondents have purchased, or were involved in the purchasing decision, of dry dog food in the past 3 years;

    g.   Respondents have purchased dog food from at least one premium dog food brand in the past 3 years.[46]

5.2   Choosing Attributes for the CBC Study

109.   Choosing attributes and their respective levels is an important aspect of proper conjoint study design. In the following I describe the general consideration for attributes, the process of selecting attributes and the design of the choice menus that present the attributes.

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[46]   The list of competitor premium dog food was identified from a variety of sources: CPF1813214, slide 72; CPF1767531; and identified as "Competitors" in Expert Report of Dr. Robert H. Poppenga, DVM, PhD, DABVT, dated August 06, 2019, Scott Weaver v. Champion Petfoods USA Inc. and Champion Petfoods LP, United States District Court Eastern District of Wisconsin Milwaukee Division, Case No. 2:18-cv-1996-JPS.

5.2.1   General Considerations

110.   In conjoint analysis, an attribute is described as a characteristic or feature of a product, which is comprised of different levels. Each attribute must have at least two levels. An attribute with two levels is binary and may indicate whether a product has a certain characteristic or not. For example, in this case the product may be labeled to contain heavy metals or not.

111.   Most products have numerous attributes. Not all of the attributes of a product have to be shown in the conjoint menus. In practice, researchers often instruct survey respondents to assume that they are purchasing the product of interest with a specific set of attributes that does not vary, and then vary some of the many attributes that define a product typically focusing on important and relevant attributes. For example, even though having wheels is utterly important for driving a vehicle safely, researchers would typically not include the number of wheels in the conjoint analysis assessing demand for vehicles as all modern cars have four wheels, an attribute that does not vary between different makes or models.

112.   The academic literature recommends that CBC studies involve eight or fewer attributes, each comprised of two to five levels, in order to avoid fatigue and in order to consider the general ability of participants to process information.[47]

113.   V. R. Rao (2014) suggests two sources available for determining relevant attributes:[48]

    a.   Previous consumer surveys or market surveys;

    b.   A pilot survey in which respondents are asked to rank a large selection of attributes.

114.   Orme recommends not showing more than six attributes in a conjoint study.[49] Hence, besides the origin and price, which is required to determine the monetary value, I added other attributes as "decoys" to distract respondents from the real focus of the study. I selected the decoy attributes based on Defendants' packaging. These attributes are deemed to be relevant to consumers. That does not mean that these attributes need to be the most important attributes to

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[47]   Orme, B. K. (2014). *Getting Started with Conjoint Analysis: Strategies for Product Design and Pricing Research* (3rd ed.). Manhattan Beach, CA: Research Publishers LLC, p. 53.

[48]   Rao, V. R. (2014). *Applied Conjoint Analysis*: Springer, p. 43.

[49]   Orme, B. (2002). Formulating Attributes and Levels in Conjoint Analysis. *Sawtooth Software Research Paper Series*, p. 1.

consumers. Nor does it mean that the attributes currently need to be part of currently available products. Researchers regularly conduct conjoint surveys to assess how consumers value attributes manufacturers might consider adding to their products in the future.

5.2.2 Choice of Attributes for the Specific Study

115.   The goal of my studies is to assess the value that customers who purchase the Products would place on misrepresentations and omissions.

5.2.2.1 Misrepresentation Surveys

116.   The misrepresentations to be tested are as follows:[50]

   a. Biologically Appropriate;

   b. Fresh Regional Ingredients;

   c. Delivering Nutrients Naturally.

117.   I included these three misrepresentations as attributes and/or levels. The "Fresh and Regional" attribute was broken up into three levels to test the impact of each individual claim and the combination of the two ("Fresh and Regional", "Fresh", and "Regional"). In order to prevent survey participants from focusing only on the attributes of interest[51], I included two additional decoy attributes that are not of interest, after reviewing the package of the Acana study product.[52] I chose "WholePrey Diet", "High Palatability" as they were also promoted and advertised on the actual package along with the misrepresentations subject to this litigation.

118.   Price is an important attribute of conjoint surveys and required to estimate the demand curves for my study. Conjoint analysis imitates the real-world purchase situation and the price levels presented to the respondents in the survey should cover an appropriate range of actual retail market prices. These prices reflect a market equilibrium of supply and demand in the Actual World. Three considerations determined the price range included in the study:

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[50]   Complaint, ¶12.

[51]   Researchers often refer to this as focalism bias.

[52]   25LBAcanaMeadowland_2015.pdf.

a. First, generally, the price range should cover realistic prices for the product. For example, a price of $0.25 for a 25-lb of dog food would not be realistic as the typical retail price of dog food is far higher. Similarly, a price of $200 would also not be realistic for the same size bag of dog food. From 2016 through 2018, in New York, the MSRP of Acana Meadowlands 25lb ranged from $65.99 to $68.99.[53] As of February 2021, Acana Meadowlands in a 25-lb bag retails for $73.99 on Chewy.com.[54]

b. Second, prices can and need to be higher or lower than the prices of currently offered products as we test product attribute combinations that might not yet be available in the market.

c. Third, in the case where the impact of false and misleading advertising has to be assessed, the price for a product where it is known that the advertised claim is false and/or misleading has to be determined. However, such product is currently not available in the market. Hence, in order to estimate a demand curve for the product where it is known that the advertised claim is false and/or misleading, prices both below and above the price points common in the market have to be included.

119. Because Defendants' products are being sold in different bag sizes, I used the most common bag size of 25-pounds in my survey. I chose five price levels between $46.99 and $87.99 as representative prices for a 25-pound bag. Those are not meant to be the exact prices charged for the products in the market but are reflective of the real-world price range as evidenced in Defendants' documents.[55] In my opinion, the chosen price range complies with the considerations for choosing product prices in CBC studies.

120. Table 4 below shows all attributes and their levels of the Acana misrepresentation survey.

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[53]   CPF2117046.

[54]   https://www.chewy.com/acana-meadowland-grain-free-dry-dog/dp/123873, last accessed on February 18, 2021.

[55]   See CPF2117046-8 for a list of Defendants' suggested retail prices (MSRP) for Acana products in New York for 2016-2018.

Table 4: Acana Misrepresentation Survey - Attributes and Levels

	Attribute	Levels
1	Biologically Appropriate	1. Label Included (Biologically Appropriate) 2. No Label Included
2	WholePrey Diet	1. Label Included (WholePrey Diet) 2. No Label Included
3	High Palatability	1. Label Included (High Palatability) 2. No Label Included
4	Ingredient Sourcing	1. Fresh Regional Ingredients 2. Fresh Ingredients 3. Regional Ingredients 4. No Label Included
5	Delivering Nutrients Naturally	1. Label Included (Delivering Nutrients Naturally) 2. No Label Included
6	Price per 25-pound bag	1. $46.99 2. $57.99 3. $66.99 4. $73.99 5. $87.99

5.2.2.2   Omission Surveys

121.   The omissions to be tested are as follows:[56]

     a.   Heavy metals (Lead, Arsenic, Mercury, Cadmium);

     b.   Bisphenol A (BPA);

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[56]   Complaint, ¶¶5-7.

    c. Regrinds;

    d. Expired ingredients.

122.   I included the four omissions as attributes and levels so that I can assess the value that consumers would place on those. I also included an additional attribute that is not of interest, use of artificial preservatives, as a distractor attribute which prevents survey participants from focusing only on the attributes of interest.

123.   I chose five price levels between $46.99 and $87.99 as representative prices for a 25-pound bag of Acana omissions study product. Those are not meant to be the exact prices charged for the products in the market but are reflective of the real-world price range.[57] In my opinion, the chosen price range complies with the considerations for choosing product prices in CBC studies.[58]

124.   All attributes of the Acana omission survey, including the price attribute, and their levels are shown in Table 5 below. The descriptions for the attributes were provided by Plaintiffs' counsel.

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[57]   See CPF2117046-8 for a list of Defendants' suggested retail prices (MSRP) for Acana products in New York for 2016-2018.

[58]   See ¶123 for the considerations.

Table 5: Acana Omission Survey - Attributes and Levels

	Attribute	Levels
1	Artificial Preservatives	1. May contain artificial preservatives. Artificial preservatives are added to food to fight spoilage caused by bacteria, molds, fungus, and yeast. 2. [No Label Included]
2	Expired Ingredients	1. May contain expired ingredients. Expired ingredients are ingredients that have passed their "shelf life" date. 2. [No Label Included]
3	Heavy metals	1. May contain measurable amounts of heavy metals such as lead, arsenic, mercury, and/or cadmium. 2. [No Label Included]
4	BPA	1. May contain measurable amounts of BPA. BPA is a chemical compound used in plastic. 2. [No Label Included]
5	Regrinds	1. May contain regrinds. Regrinds are previously made dry dog food that is ground and then used in another batch of dry dog food. 2. [No Label Included]
6	Price	1. $46.99 2. $57.99 3. $66.99 4. $73.99 5. $87.99

Source: BRG conjoint study.

5.2.3   Design of Choice Menus

125.   Each study participant was given 15 CBC exercises. Each choice exercise consisted of two choices with various combinations of attribute levels and prices. As part of the introduction to the conjoint module, participants were introduced to each attribute. In addition, they could also

recall the information provided on each attribute in each conjoint exercise by hovering their mouse over a help icon.

126.   In each of the 15 exercises, respondents were presented with two choices out of 320 or 160 permutations.[59] Hence, each respondent saw a total of 30 permutations. After respondents choose their preferred option, they answer, "would you purchase the option you selected above?" This design is called the "dual-response none method"[60] and provides additional information because it is possible that the respondent would not want to buy any of the two options but prefers Option 1 over Option 2.

127.   In his seminal publication on conjoint analysis, Rao discusses the number of choices represented on one choice menu.[61] Recent eye-tracking studies have shown how respondents react to conjoint screens. The authors realized the value of limiting the number of options shown on each screen to two rather than three or five as had been often done in the past.[62] Following the academic research, I designed the study with two choice options per screen to enable respondents to process the complete information provided and to avoid issues of fatigue.

128.   It is a known phenomenon that choices presented earlier in a list of choices in a questionnaire are disproportionately likely to be selected.[63] This phenomenon is known as order bias. To avoid order bias in my study, each respondent saw the attributes in a randomly assigned order– except for price, which is always shown last. The reason for showing price last lies in the fact that the respondents must see the attributes of the product first to be able to decide for or against the purchase of an option. Also, per standard practice, while the order of attributes varied

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[59]   For the misrepresentation surveys, four attributes with two levels, one attribute with one level, one attribute (price) with five level yields 320 (=2x2x2x4x2x5). For the omission surveys, five attributes with two levels and one attribute (price) with five level yields 160 (=2x2x2x2x2x5).

[60]   Orme, B. K. & Chrzan, K. (2017). *Becoming an Expert in Conjoint Analysis*: Sawtooth Software, Inc, pp. 123-124.

[61]   Rao, V. R. (2014). *Applied Conjoint Analysis*: Springer, pp. 132-133.

[62]   Meyerding, S. G. (2018). Combining Eye-Tracking and Choice-Based Conjoint Analysis in a Bottom-up Experiment. *Journal of Neuroscience, Psychology, and Economics, 11*(1), 28., Bansak, K., Hainmueller, J., Hopkins, D. J. & Yamamoto, T. (2019). Beyond the Breaking Point? Survey Satisficing in Conjoint Experiments. *Political Science Research and Methods*, 1-19.

[63]   Krosnick, J. A. & Alwin, D. F. (1987). An Evaluation of a Cognitive Theory of Response-Order Effects in Survey Measurement. *Public Opinion Quarterly, 51*(2), 201-219.

between respondents, the order of attributes a specific respondent would see throughout his exercises did not vary.

129.   For the Acana misrepresentation survey, respondents were introduced to the same hypothetical purchase situation, but were asked to assume that they are purchasing a bag of the Acana study product[64]:

> *"Next, we have a brief exercise to help us learn about your dog food purchase preferences. Assume that you are purchasing a 25-pound bag of Acana Regionals Meadowland dry dog food.*
>
> *On the next 15 screens you will see different combinations of dog food labels that may be present on the bag at various price points. On each screen, please select the option that matches your preference. Assume that the dog food varies only on the features presented on the choice screen.*
>
> *There are no right or wrong answers. We are simply interested in your opinion. We hope you find this exercise interesting."*

130.   In the introduction screen, respondents were shown the front and back images of the Acana study product. The actual package images without any modification were used. Respondents had to confirm that they had reviewed the dog food images to proceed to the next step.

131.   Figure 4 shows examples of actual Acana packaging.[65] I adapted the general design, including font type and size, as well as background color in designing the attributes for the Acana misrepresentation survey. Table 6 shows the attribute description that respondents reviewed on the following screen. Respondents had to confirm again that they had reviewed the attribute descriptions to proceed to the next step.

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[64]   Screenshots of the surveys are included as Appendix 1.

[65]   CPFB00042.

Figure 4: Descriptions on the Acana Study Product's Packaging

Source: Bates CPFB00042.

Table 6: Acana Misrepresentation Survey - Attribute Descriptions

Attribute	Description
Biologically Appropriate	

Attribute	Description
WholePrey Diet	**WHOLEPREY™ DIET** POULTRY | ORGANS | CARTILAGE IN HER ETERNAL WISDOM, MOTHER NATURE MATCHED THE NUTRIENTS FOUND IN WHOLE PREY ANIMALS TO PERFECTLY MEET THE NEEDS OF YOUR DOG.
High Palatability	**HIGH PALATABILITY** INFUSED WITH FREEZE-DRIED CHICKEN LIVER
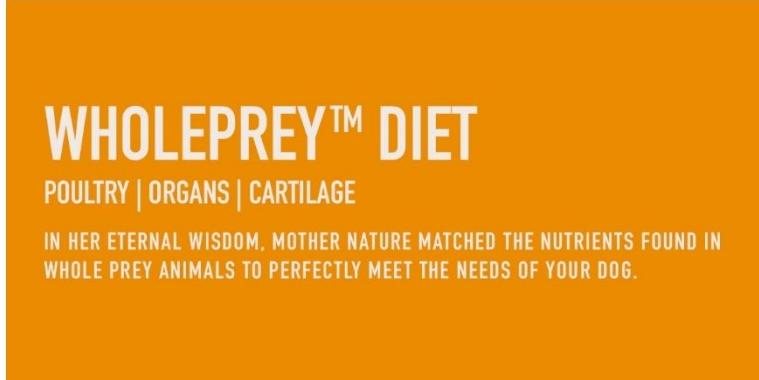
Attribute	Description
Ingredient Sourcing	**FRESH INGREDIENTS** We focus on fresh ingredients. **REGIONAL INGREDIENTS** We focus on ingredients from our region. **FRESH REGIONAL INGREDIENTS** We focus on fresh ingredients from our region that are ranched, farmed or fished by people we know and trust.
Delivering Nutrients Naturally	**DELIVERING NUTRIENTS NATURALLY**
Price	Price per 25-pound bag

Source: Screenshot of BRG survey fielded by Amplitude Research

132.   Figure 5 below shows an example of a choice menu for the Acana misrepresentation survey which incorporates the recommendations of proper choice menus design as discussed in this section.

Figure 5: Acana Misrepresentation Survey - Example of a CBC Choice Menu

Please indicate which of the given options you would select. Hover your mouse over the (i) icon to see more information for each attribute. If a cell is BLANK, then no labels regarding the attribute are found on the dog food bag.

	Option 1	Option 2
WholePrey Diet (i)	WHOLEPREY DIET	WHOLEPREY DIET
Biologically Appropriate (i)	BIOLOGICALLY APPROPRIATE	BIOLOGICALLY APPROPRIATE
Delivering Nutrients Naturally (i)	DELIVERING NUTRIENTS NATURALLY	
Ingredient Sourcing (i)	FRESH INGREDIENTS	REGIONAL INGREDIENTS
High Palatability (i)		
Price (i)	$57.99	$46.99
Which option would you prefer?	○	○

Source: Screenshot of BRG survey fielded by Amplitude Research

133.   For the Acana omission survey, respondents were introduced to a hypothetical purchase situation where they are told to assume that they are purchasing a bag of their favorite dog food. The purchase situation and characteristics of the dog food given to respondents was as follows[66]:

> *"Next, we have a brief exercise to help us learn about your dog food purchase preferences. Assume that you are purchasing a 25-pound bag of your favorite dry dog food.*
>
> *The exercise has 15 screens with different combinations of dog food labels and prices. Assume that the dog food varies only on the features presented on the choice screen. Please select the option that matches your preference.*
>
> *There are no right or wrong answers. We are simply interested in your opinion. We hope you find this exercise interesting."*

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[66]   Screenshots of the surveys are included as Appendix 1.

134.   For the two surveys testing omissions, no packaging image was presented to the participants because, by definition, omissions are not present on any current packages of either brand. I would not be able to anticipate how Defendant would display if required, the contested omissions. Hence, I did not try to emulate Defendant's design and provided respondents with a text-based description of the Omissions.

135.   In the following screen of the conjoint survey, respondents were shown attribute descriptions (Table 7). Respondents had to confirm that they have reviewed the attribute descriptions to proceed to the next step.

Table 7: Acana Omission Survey - Attribute Description

Attribute	Description
Artificial Preservatives	May contain artificial preservatives. Artificial preservatives are added to food to fight spoilage caused by bacteria, molds, fungus, and yeast.
Expired Ingredients	May contain expired ingredients. Expired ingredients are ingredients that have passed their "shelf life" date.
Heavy metals	May contain measurable amounts of heavy metals such as lead, arsenic, mercury, and/or cadmium.
BPA	May contain measurable amounts of BPA. BPA is a chemical compound used in plastic.
Regrinds	May contain regrinds. Regrinds are previously made dry dog food that is ground and then used in another batch of dry dog food.
Price	Price per 25-pound bag

Source: BRG conjoint study.

136.   Figure 6 below shows an example of a choice menu for the Acana Omission Survey which incorporates the recommendations of proper choice menus design as discussed in this section.

Figure 6: Acana Omission Survey - Example of a CBC Choice Menu

Please indicate which of the given options you would select if a 25-pound bag of your favorite dog food had the following labels. If a cell is BLANK, then no labels regarding the attribute are found on your favorite dog food.

Option 1	Option 2
May contain **expired ingredients**. Expired ingredients are ingredients that have passed their "shelf life" date.	
May contain measurable amounts of **heavy metals** such as lead, arsenic, mercury, and/or cadmium.	
May contain **regrinds**. Regrinds are previously made dry dog food that is ground and then used in another batch of dry dog food.	May contain **regrinds**. Regrinds are previously made dry dog food that is ground and then used in another batch of dry dog food.
	May contain **artificial preservatives**. Artificial preservatives are added to food to fight spoilage caused by bacteria, molds, fungus, and yeast.
May contain measurable amounts of **BPA**. BPA is a chemical compound used in plastic.	May contain measurable amounts of **BPA**. BPA is a chemical compound used in plastic.
$66.99	$57.99
○	○

Source: Screenshot of BRG survey fielded by Amplitude Research.

5.3   Implementing the CBC Study

In the following I describe how I implemented the CBC study as an Internet panel survey. I describe the advantages of internet panels and discuss the vendor I chose to implement the internet panel survey.

5.3.1   Internet Panel Surveys

137.   Current research suggests that internet surveys have great advantages over other traditional survey methods. For instance, studies have found that computer data collection yields higher concurrent validity, with less chance of participants framing answers to attempt to please the questioner, and less random measurement error when compared to mall intercept and

telephone surveys.[67] Internet surveys also allow for broad geographic reach to areas where surveying via mall intercept or other face-to-face methods are not be feasible.[68] The efficacy of internet-based surveys is also due to large internet panels retained by specialized market research firms. These firms employ trained professionals who program, administer, and quality control the surveys to increase the quality of the results.

138.   Internet surveys have become a standard tool in the corporate world. According to the Global Research Business Network, internet surveys now account for more than a quarter of global market and social research revenues. In many of the world's top research markets, internet surveys are now the primary means of research.[69] Well-executed internet survey research is regularly accepted by courts.[70]

139.   The conjoint survey was administered via an online panel. The survey vendors implementing conjoint surveys followed accepted standards regarding:

   a.   Survey panelist recruiting;

   b.   Strategic partnerships with other market research firms;

   c.   Use of advanced software and technology;

   d.   Use of proprietary survey completion time tracker;

   e.   High quality filtering system to track respondent information and respondent behavior to deliver the highest quality sample;

   f.   Best practices of quality control - including removal of sign-ups who provide inconsistent demographic information;

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[67]   Yeager, D. S., Krosnick, J. A., Chang, L., Javitz, H. S., Levendusky, M. S., Simpser, A. & Wang, R. (2011). Comparing the Accuracy of Rdd Telephone Surveys and Internet Surveys Conducted with Probability and Non-Probability Samples. *Public Opinion Quarterly, 4*(1).

[68]   *See* Diamond, S. S. (2011). Reference Guide on Survey Research. In *Reference Manual on Scientific Evidence* (3rd ed.): Washington D.C.: National Academies Press., p. 406.

[69]   Rao, L. (2015). *The Next Frontier for Online Survey Companies: Law Firms*. Fortune. Retrieved from http://fortune.com/2015/09/16/online-survey-companies-law-firms/.

[70]   Isaacson, B., Hibbard, J. D. & Swain, S. D. (2008). Why Online Consumer Surveys Can Be a Smart Choice in Intellectual Property Cases. *IPL Newsl., 26*(3).

g. Survey participation validation.

140.   As is standard survey practice for surveys used in litigation proceedings, the conjoint survey was conducted in a "double-blind" fashion,[71] that is, neither the vendor nor the respondents should be aware of the survey sponsor or the ultimate intention of the survey. Additionally, the data collection and initial tabulation was automated and concurrent with answering the online questionnaire.

141.   To ensure that the data generated by the survey are of the highest quality, additional quality control measures were implemented:

a. The panel owner tracked which panel members responded to the survey. Each respondent was only allowed to respond to a given survey once. As is standard practice, the detailed information on the respondents was not shared with us;

b. The survey also included control measures to evaluate the extent to which respondents were involved in completing the survey. These may include: a review of each respondent's survey completion time, review of text field responses, straight-line testing, and other filtering techniques that filter automated responses and result in superior data and higher quality feedback.

142.   In summary, properly designed and well-executed internet-based surveys have been used to draw valid statistical inferences about the target population, provide reliable results and maintain accepted advantages over other recruiting methodologies. I follow standard practice tested and developed in many litigation cases.

5.3.2   Vendor Selection

143.   I commissioned Amplitude Research ("Amplitude"), a specialized survey company, to conduct my study as an internet panel survey.

144.   Founded in 2002, Amplitude Research® is one of the leading mail, telephone and online survey companies serving clients throughout the United States, Canada, South America, and Asia. Clients include commercial, educational, and governmental organizations. Amplitude Research®

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[71]   Diamond, S. S. (2011). Reference Guide on Survey Research. In *Reference Manual on Scientific Evidence* (3rd ed.): Washington D.C.: National Academies Press.

is a member of the American Marketing Association (AMA), Marketing Research Association (MRA), Interactive Marketing Research Organization (IMRO), and Marketing Research Association of South Florida, and adheres to the professional guidelines for survey companies applied by these organizations. Amplitude Research is also A+ Rated by the Better Business Bureau.[72]

145.   Amplitude programed and hosted the surveys of my design and provided me with the raw data to analyze the preferences and choices of consumers. Amplitude conducted the field work in September and October 2020.

5.4   Pre-Test

146.   The *Reference Guide on Survey Research*[73] recommends administering a "pre-test" survey, which is defined as administering the proposed survey to a small sample of the same target population before conducting the full-scale study. Properly conducted pre-tests can inform the researcher of potential flaws in the survey design or sources of potential misunderstanding of the meaning of questions, giving the researcher a chance to rephrase and change wording of the questionnaire to be clear and unambiguous.[74]

147.   As the first phase of the field work, I conducted a pre-test of the surveys with 155 respondents to confirm that participants understand the questions and can perform the exercises. The participants in the pre-test were selected based on the same criteria as participants for the main survey. The pre-test participants were presented with the questionnaires I had designed for the surveys. In addition, the survey vendor conducted detailed phone interviews with 40 participants regarding the understanding of the purchase scenario described and the conjoint exercises. The results of this pre-test indicated that participants neither had problems understanding the questions in the survey nor understanding the purchases options presented in the choice menus.[75] I also reviewed the part-worths computed based on around 50-80 pre-test

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[72]   http://www.amplituderesearch.com/survey-company.shtml.

[73]   Diamond, S. S. (2011). Reference Guide on Survey Research. In *Reference Manual on Scientific Evidence* (3rd ed.): Washington D.C.: National Academies Press.

[74]   *Ibid.* pp. 388-389.

[75]   For details on the pre-test phone interviews, see Appendix 2.

responses for each study and conducted a number of diagnostic tests on the raw conjoint responses. I did not identify any issue that would indicate that respondents had not understood the survey. Hence there was no need to change the survey design and I rolled out the survey to a total of 2,375 participants. As is standard practice in cases when no survey design changes are needed, the responses of the pre-test group were included in the survey.

6   Empirical Conjoint Study Results

148.   In this section, I describe the results of the empirical study. I start with an overview before summarizing the results of the study.

6.1   Overview

149.   A total of 1127 panel members participated in the two conjoint surveys. In the following, I first present a descriptive analysis of the participants' demographics. I then discuss the results of the representativeness tests before presenting the economic loss estimates derived from my conjoint survey.

6.2   Demographics

150.   Respondents provided information on demographics and socio-economic variables, such as their age, gender, household income, and educational background. Table 8 shows the demographic distribution of respondents across all surveys. Appendix 3 provides the demographics of each survey in more detail.

151.   Slightly more women (54.9%) than men participated in the survey. This may reflect that more women than men purchase food for the household. The demographics of survey participants indicate that older, better educated, and more affluent households are the main consumer segments purchasing premium dog foods. 13.9% of respondents had purchased Champion dog food and 29.6% of respondents reside in New York.

152.   98.9% of respondents had a clear understanding of the survey. The few respondents who indicated that they did not have a clear understanding of the survey questions had to respond to a follow-up question that asked respondents to describe what they did not understand. Some of the comments of the few confused respondents indicated that these respondents were not familiar

with the concept of conjoint analysis. Not being familiar with conjoint analysis does not invalidate a participant's responses. I therefore included these responses in my further analysis.

Table 8: Survey Demographics

Category	Label	Misrepresentation		Omission		Total	
		Count	Share	Count	Share	Count	Share
Gender	Male	256	45.1	275	49.2	531	47.1
	Female	312	54.9	284	50.8	596	52.9
Age	18 - 29	57	10	60	10.7	117	10.4
	30 - 44	160	28.2	188	33.6	348	30.9
	45 - 59	80	14.1	161	28.8	241	21.4
	60 or higher	271	47.7	150	26.8	421	37.4
	Below 18						
Household Income	Less than $25,000	84	14.8	59	10.6	143	12.7
	$25,000 to $34,999	72	12.7	61	10.9	133	11.8
	$35,000 to $49,999	60	10.6	62	11.1	122	10.8
	$50,000 to $74,999	100	17.6	90	16.1	190	16.9
	$75,000 to $99,999	75	13.2	73	13.1	148	13.1
	$100,000 to $149,999	83	14.6	108	19.3	191	16.9
	$150,000 or more	67	11.8	88	15.7	155	13.8
	Prefer not to answer	27	4.8	18	3.2	45	4
Education	Less than high school	7	1.2	10	1.8	17	1.5
	High school	106	18.7	95	17	201	17.8
	Some college	176	31	176	31.5	352	31.2
	Bachelor's degree or higher	279	49.1	278	49.7	557	49.4
Pet Information	1	327	57.6	301	53.8	628	55.7
	2	152	26.8	174	31.1	326	28.9
	3	62	10.9	52	9.3	114	10.1
	4 or more	27	4.8	32	5.7	59	5.2
	None						
Clear Understanding	Yes	562	98.9	553	98.9	1115	98.9
	No	6	1.1	6	1.1	12	1.1
Awareness of Lawsuit	I am aware of at least one lawsuit	84	14.8	123	22	207	18.4
	I am not aware of any lawsuits	383	67.4	342	61.2	725	64.3
	Don't know / Unsure	101	17.8	94	16.8	195	17.3
Champion & NY	Champion Purchasers	79	13.9	89	15.9	168	14.9
	New York Residents	168	29.6	167	29.9	335	29.7
	Champion Purchasers & NY Resident	37	6.5	38	6.8	75	6.7

Source: BRG analysis of conjoint study responses.

6.3   Survey Validation

153.   In this Section, I present the results of a survey I conducted to assess what consumers expect when they see certain statements about positive attributes of a premium dog food product. In addition, I present two approaches to validating the conjoint survey results: First an importance score, which shows the relative importance of each attribute to the survey participants. Second, the Root Likelihood, which is a measure of the goodness of fit of the underlying econometric logit model.

6.3.1   Importance Score

154.   An importance score reflects the maximum effect each attribute has upon product choice. It is an intuitive measure that is easy to compute.[76] I quantified the relative importance of all attributes in the four surveys, including price, and also included a confidence interval for each metrics.[77] For the Acana misrepresentation survey, Price has the highest importance share (38.5%), followed by Fresh & Regional (14.9%) and Delivering Naturally (14.0%). In the Acana Omission survey, the attribute Price has a lower importance score than in the Acana Misrepresentation survey. This implies that the other attributes have a higher importance weight in the Omission surveys than the other attributes in the Misrepresentation surveys.

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[76]   Orme, B. K. (2014). *Getting Started with Conjoint Analysis: Strategies for Product Design and Pricing Research* (3rd ed.). Manhattan Beach, CA: Research Publishers LLC, p. 11.

[77]   Orme, B. K. & Chrzan, K. (2017). *Becoming an Expert in Conjoint Analysis*: Sawtooth Software, Inc, p. 183.

Table 9: Importance Score

Attribute	Acana Misrepresentation		
	Low	Median	Upper
Price	37.0	38.6	40.1
Delivering Nutrients Naturally	13.1	14.0	14.9
Fresh & Regional	13.7	15.0	16.2
Low Temperature/High Palatability	10.7	11.5	12.3
Whole Prey	8.9	9.8	10.7
Biologically Appropriate	10.3	11.1	12.0
	Acana Omissions		
Attribute	Low	Median	Upper
Price	17.5	19.3	21.1
Regrinds	5.2	6.5	7.7
BPA	18.9	20.2	21.4
Heavy Metals	33.1	34.6	36.1
Expired Ingredients	12.9	14.0	15.2
Artificial Preservatives	4.0	5.3	6.5

Source: BRG analysis based on Amplitude Survey.

6.3.2   Root Likelihood as Goodness of Fit Measure

155.   I utilized the root-likelihood ("RLH") measure [78] to assess if the overall prediction model is reliable. The root-likelihood measures how well the part-worths estimates fit the choices made by the participants. Using the underlying logit function, it is possible to predict the probability that respondents would make the choices they made. The root-likelihood is the geometric mean of the estimated choice probabilities for each participants' choices. The value of the RLH is directly associated with the number of options in each choice menu – if a study has 5 options then the null likelihood (the predictability of the responses using uninformative utilities) is $1/5 = 0.2$. Therefore, a fit of 0.2 or less in a five-alternative choice study would not be good.

156.   In this case, all survey choice menus have two options to choose one from. In addition, the survey choice menus included the no purchase options. Therefore, the null likelihood equals

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[78]   Orme, B. K. (2014). *Getting Started with Conjoint Analysis: Strategies for Product Design and Pricing Research* (3rd ed.). Manhattan Beach, CA: Research Publishers LLC, pp. 214-215.

1/3 = 0.33, which implies that RLH values would have to be larger than 0.33 to indicate a good model fit.

157.   Table 10 shows the RLH goodness of fit measure for the underlying logit model. A model that randomly chooses alternatives with equal probability has an RLH of 1/k, where k is the number of alternatives. A model with a good fit to the data should have a larger RLH than this. The average and median root likelihoods for Survey 3 are both 0.687 and 0.702 respectively, while the average and median root likelihoods for Survey 4 are 0.682 and 0.702, respectively.

158.   Between 99.8% and 100% of respondents have a RLH greater than 0.33. Hence, the logit model for all four surveys predicts the results for 99.8% of all respondents better than a model that chooses alternatives at random.

Table 10: RLH Metrics

Description	2.5%	Median	97.5%	Mean	>0.33	>0.33 in %
Acana Misrepresentation	39.0%	70.2%	93.9%	68.7%	568	100.0%
Acana Omissions	39.7%	70.2%	92.5%	68.2%	558	99.8%

Source: BRG analysis based on Amplitude Survey.

6.4   Market Simulation and Economic Loss Estimates

159.   I applied a market simulation to estimate the economic loss associated with purchasing Defendants' product when it is revealed at the time and place of purchase that there were misrepresentations and certain key information had been omitted from the product.

160.   Market simulations are an important tool to convert the part-worths from the conjoint study into monetary measures reflecting consumer preferences and choices. [79] In general, different permutations of product attributes and levels of those product attributes are applied in a market simulation to assess the respondents' choice probabilities for different combinations of product attributes and the resulting economic loss.

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[79]   *Ibid.* pp. 93-96.

161.   The market simulation consolidates the preferences and choices for all respondents which enables us to answer questions about preference and likelihood of choice when attributes and levels of product attributes are changed.

162.   In my market simulations[80], I have varied the levels of attributes and prices, resulting in a discrete number of possible combinations and the associated share of respondents who would have purchased that product based on the HBE calculations. A regression analysis isolates the contribution of each attribute level and the market share to the variable price. Based on this regression model I can calculate demand curves for any attribute combination by varying the market share while keeping all other inputs constant. In addition, I can draw two sets of demand curves where I vary one particular attribute of interest while keeping all other attributes constant.

163.   In Figure 7, the dark gray line is an example of the demand curve based on this regression model. The light gray line in Figure 8 shows the demand for the same product specification for the case that it is known at the time and point of purchase that the Product is not Fresh & Regional. The fact that the empirically derived demand curve has shifted downwards proves empirically that the product becomes less desirable when it is disclosed at the time and point of purchase that the product is not Fresh & Regional.

Figure 7: Example of actual and But-For Demand for a Acana Product With Disclosure that Product is Not Fresh & Regional

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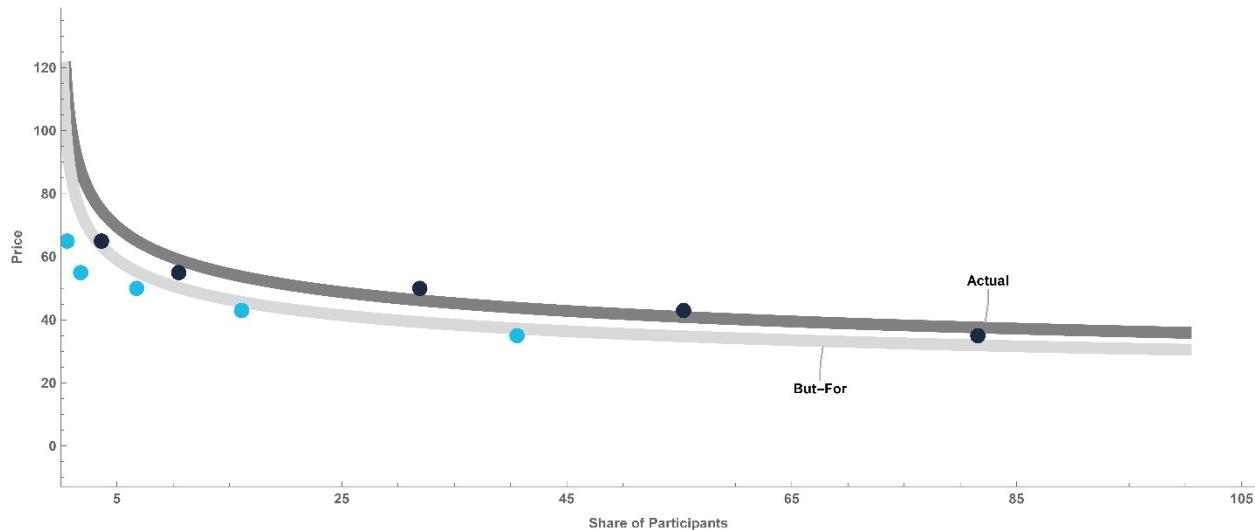
80   See Section 4.5 for a description of the methodology.

Source: BRG Calculations Based on CBC Study.

164.   In the double-log model specification, the differences in percent between the demand curves in the Actual-World and the But-For-World are independent of the position on the demand curve.

165.   Following Orme's approach to confidence intervals[81], I estimate confidence intervals by estimating the same regression as described above for 1,000 average partworths based on all respondents and 10 consecutive draws. From the 1,000 values for each coefficient, I then compute the 95% confidence interval by sorting these values and including all values in the inner 95% quantile[82]. Table 11 below shows the point estimates and confidence intervals of economic values for each attribute tested in the study as percentages of the purchase price based on the regression of the aggregated data and based on 1,000 groups of 10 draws. The coefficients of all relevant attributes are significant across all 1,000 regressions. The economic loss for combinations of the attributes can also be calculated based on the coefficients from the regression analysis, by applying a simple formula. Appendix 4 lists the estimated damage and the lower and upper bound of the confidence interval for all possible combinations of the claims.

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[81]   Orme, B. K. & Chrzan, K. *Becoming an Expert in Conjoint Analysis.*: Sawtooth Software, Inc, p. 183.

[82]   The 2.5th percentile was chosen as the lower bound and the 97.5th percentile was chosen as the upper bound. This interval contains 95% of all data points and is a non-parametric 95% confidence interval.

Table 11: Point Estimates of Economic Value with 95% Confidence Intervals

	Attribute	Aggregate Regression			
		Point Estimate	Lower Bound	Upper Bound	P-Value
Survey 1: Acana Misrepresentations	Biologically Appropriate	9.5%	6.4%	12.5%	1.08E-08
	Whole Prey	8.4%	5.4%	11.4%	2.93E-07
	High Palatability	9.8%	6.7%	12.8%	4.08E-09
	Fresh	14.0%	9.8%	18.0%	1.62E-09
	Fresh & Regional	14.1%	9.9%	18.1%	1.14E-09
	Regional	11.6%	7.4%	15.7%	3.64E-07
	Delivering Naturally	11.8%	8.7%	14.7%	5.54E-12
Survey 2: Acana Omissions	Preservatives	12.0%	8.9%	15.0%	1.87E-11
	Expired	28.7%	25.5%	31.8%	4.01E-32
	Heavy Metals	57.8%	54.2%	61.2%	4.32E-46
	BPA	38.7%	35.3%	42.0%	2.49E-39
	Regrinds	14.5%	11.4%	17.5%	5.32E-15

Source: BRG analysis of conjoint study responses.

**Table 12: Economic Loss Confidence Intervals Based on Draws**

	Attribute	Regressions by Groups of Draws			Number of Regressions with Significant Coefficient
		2.5%	50% (Median)	97.5%	
Survey 1: Acana Misrepresentations	Biologically Appropriate	0.087	0.096	0.105	1000
	Whole Prey	0.077	0.085	0.093	1000
	High Palatability	0.09	0.099	0.107	1000
	Fresh	0.128	0.14	0.154	1000
	Fresh&Regional	0.13	0.141	0.155	1000
	Regional	0.103	0.116	0.13	1000
	Delivering Naturally	0.109	0.118	0.128	1000
Survey 2: Acana Omissions	Preservatives	0.093	0.119	0.145	1000
	Expired	0.262	0.286	0.309	1000
	Heavy Metals	0.547	0.577	0.607	1000
	BPA	0.359	0.386	0.411	1000
	Regrinds	0.116	0.145	0.172	1000

Source: BRG analysis of conjoint study responses.

166.   I checked the reasonableness of my damage estimates by comparing the prices of Defendants' products to prices of non-premium dog food. For example, while Pedigree does not sell 25lb bags, an online retailer offered a 17lb bag of Pedigree dog food for $12.60, and a 33lb bag for $19.99 (Figure 8).[83] This implies an average price of $16.30 for a 25lb bag of Pedigree. In contrast, a 25lb bag of Acana Meadowland is priced at $73.99 - a 78% price premium over a Pedigree product of similar weight.[84] The misrepresentations and omissions analyzed in this study would erase many if not all benefits consumers perceive Defendants' products to have over non-premium products like Pedigree. The damage estimates in Figure 14 and Table 15 indicate that the perceived value of products without the misrepresentations and without the omissions would be similar to the price of non-premium products like Pedigree.

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[83]   https://www.chewy.com/pedigree-adult-complete-nutrition/dp/141438, accessed January 28, 2021

[84] $16.3 = \frac{12.60+19.99}{2}$; $78\% = \frac{73.99-16.30}{73.99}$

Figure 8: Prices for Pedigree at Chewy
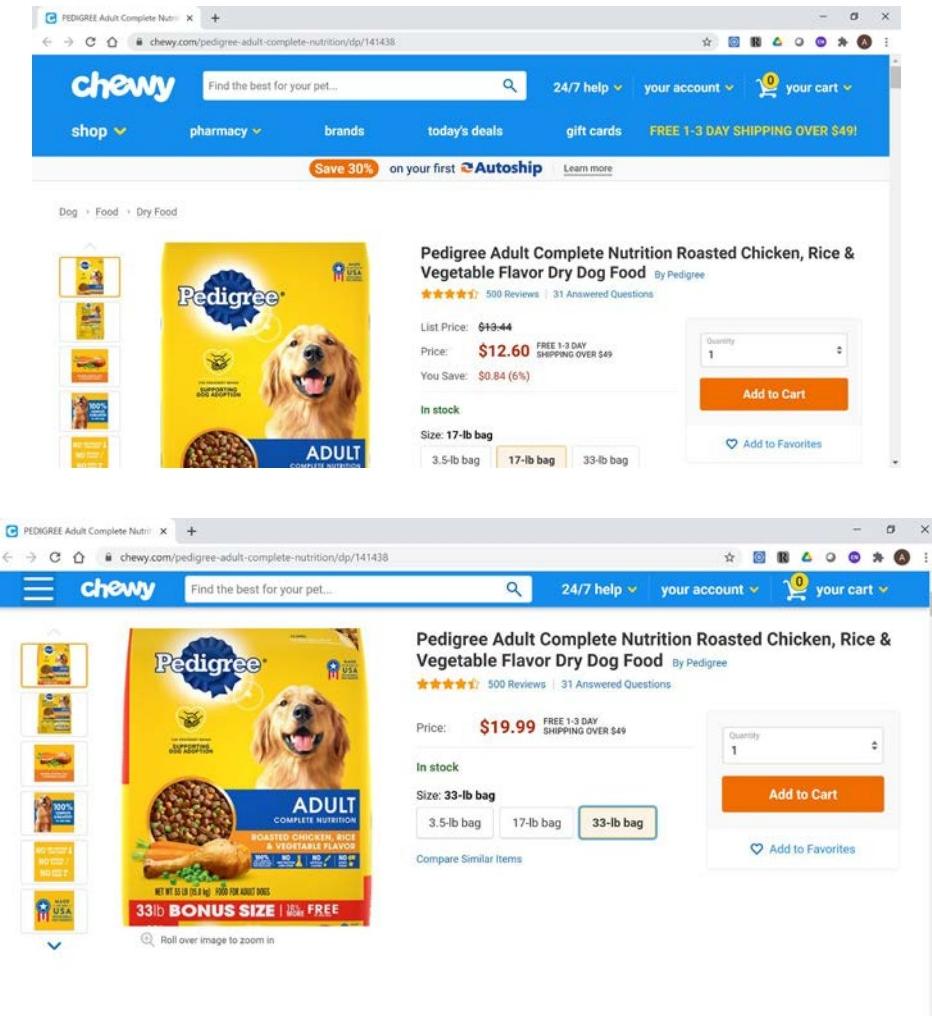
Source: https://www.chewy.com/pedigree-adult-complete-nutrition/dp/141438, accessed on January 28, 2021

7   Class-Wide Damage Estimate

167.   In Section 2.2, I had estimated the retail sales related to Products at Issue during the class period in New York. In Section 6.4 I had applied market simulations to estimate damages per unit as a percentage of the purchase price. Together, these two values allow me to estimate a range for class-wide damages. I am able to estimate class-wide damages for specific claims or a combination of claims.

168.   Table 13 shows the median as well as the lower and upper bound of class-wide damages for misrepresentations and omissions assuming that all respective claims are included in the class-wide damages.

Table 13: Range of Class-Wide Damages

Brand	Claims	Defendants' Revenue	Estimated Retail Revenue in New York	Damage in %			Damage Range		
				Lower Bound	Median	Upper Bound	Lower Bound	Median	Upper Bound
Acana	Misrepresentation	44,621,484	2,751,658	23.03	31.42	38.9	633,707	864,571	1,070,395
	Omission			80.43	84.24	87.31	2,213,159	2,317,997	2,402,473
	Total	**44,621,484**	**2,751,658**				**2,846,866**	**3,182,568**	**3,472,868**

Source: BRG analysis of conjoint study responses.

8   Expectation Survey

169.   In addition to the conjoint surveys described above, I conducted an expectation survey which 1) to measure consumer perception regarding the misrepresentations and omissions at issue; and 2) to assess the extent to which those misrepresentations and omissions have a material impact on consumer purchase interest.

170.   As with the conjoint surveys, I commissioned Amplitude to conduct a survey with Internet panel using a questionnaire I had designed.

171.   To select a sample that adequately represents the class members, survey respondents were only included in the survey if they met the following criteria:

   c.   Respondents are 18 years or older;

   d.   Respondents live in the United States;

   e.   Respondents or a close family member are not working in advertising agency or market research;

      f.   Respondents or a close family member are not working for a company that manufactures or sells dog food;

      g. Respondents have had at least one dog in the past 3 years;

      h. Respondents have purchased, or were involved in the purchasing decision, of dry dog food in the past 3 years;

      i.   Respondents have purchased dog food from at least one premium dog food brand in the past 3 years.[85]

172.   A total of 242 respondents participated in this survey. Table 14 describes the demographics of the survey participants.

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[85]   The list of competitor premium dog food was identified from a variety of sources: CPF1813214, slide 72; CPF1767531; and identified as "Competitors" in Expert Report of Dr. Robert H. Poppenga, DVM, PhD, DABVT, dated August 06, 2019, Scott Weaver v. Champion Petfoods USA Inc. and Champion Petfoods LP, United States District Court Eastern District of Wisconsin Milwaukee Division, Case No. 2:18-cv-1996-JPS.

Table 14: Expectation Survey Demographics

Category	Level	Count	Share
Gender	Male	94	38.8
	Female	148	61.2
Age	18 - 29	20	8.3
	30 - 44	75	31
	45 - 59	88	36.4
	60 or higher	59	24.4
	Below 18		
Household Income	Less than $25,000	14	5.8
	$25,000 to $34,999	21	8.7
	$35,000 to $49,999	35	14.5
	$50,000 to $74,999	43	17.8
	$75,000 to $99,999	37	15.3
	$100,000 to $149,999	54	22.3
	$150,000 or more	33	13.6
	Prefer not to answer	5	2.1
Education	Less than high school	1	0.4
	High school	25	10.3
	Some college	68	28.1
	Bachelor's degree or higher	148	61.2
Pet Information	1	153	63.2
	2	59	24.4
	3	21	8.7
	4 or more	9	3.7
	None		
Clear Understanding	Yes	237	97.9
	No	5	2.1

Source: BRG analysis based on Expectation Study responses

173.   After viewing the image of the Acana study product (the same products used in the conjoint study), all respondents were instructed[86]:

> *We are interested in your expectations as to the dog food you just viewed.*
> *Based on what you recall from the dog food packaging you just reviewed,*

[86] Survey screenshots are included in Appendix 1.

> *please select the one response closest to your opinion. If you don't know or*
> *are not sure, please indicate so.*

174.   Next, all respondents were shown the image again and asked follow-up questions. Figure 9 through Figure 14 show the respective question in the caption and the results in the figure.

175.   The results indicate that a significant portion of consumers interpret the Products' packaging to be misleading, assuming Plaintiffs' allegations are true. For example, from "fresh" statements of the packaging, 84.7% of respondents either agree or strongly agree that the advertised dog food does only contain fresh ingredients unless otherwise specified (Figure 9).[87]

176.   The survey results also show the impact of misrepresentations and omissions on the purchase intention of the dog food consumers. For example, 67.9% to 77.5% of respondents would be more likely to purchase the dog food bag shown if it did not contain BPA, pentobarbital, heavy metals, regrinds, or expired ingredients, respectively.

Figure 9: From the "Fresh" statements on the dog food shown, I would expect that the dog food shown...
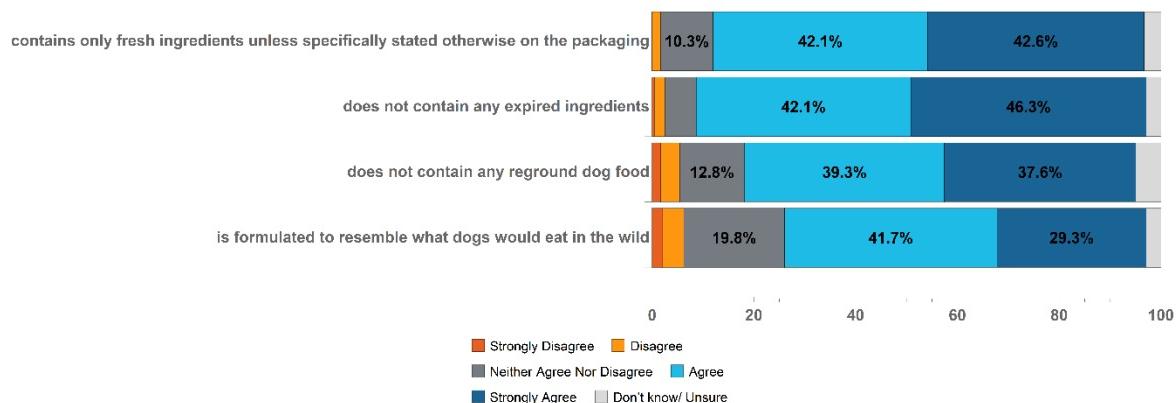
Source: BRG analysis based on Expectation Study responses

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[87] $84.7 = 42.6 + 42.1$

Figure 10: From the "Regional" statements on the dog food shown, I would expect that the dog food shown...
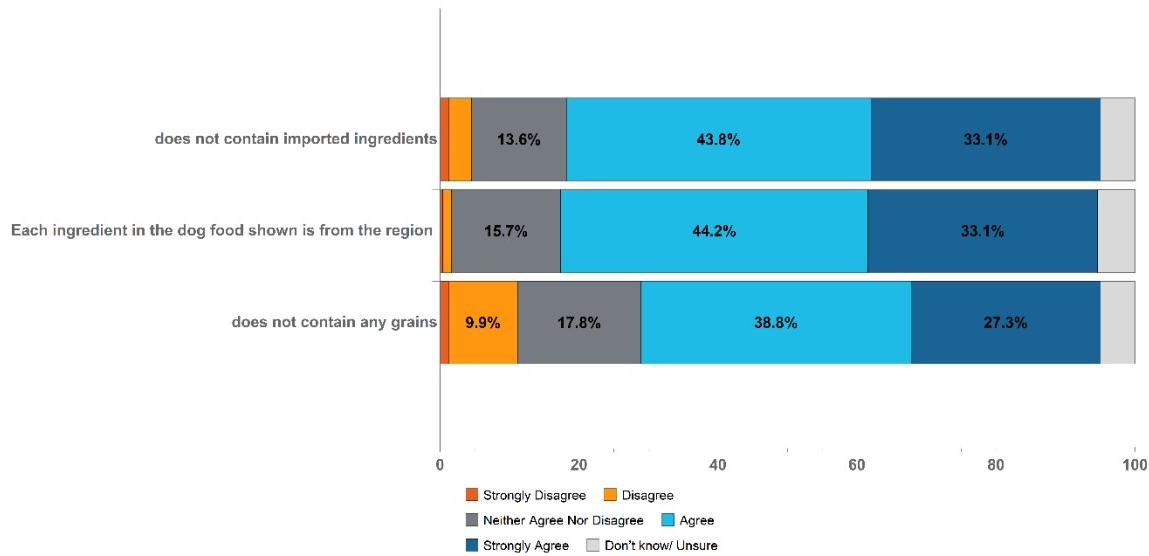
Source: BRG analysis based on Expectation Study responses

Figure 11: From the "Biologically Appropriate" statements on the dog food shown, I would expect that the dog food shown...
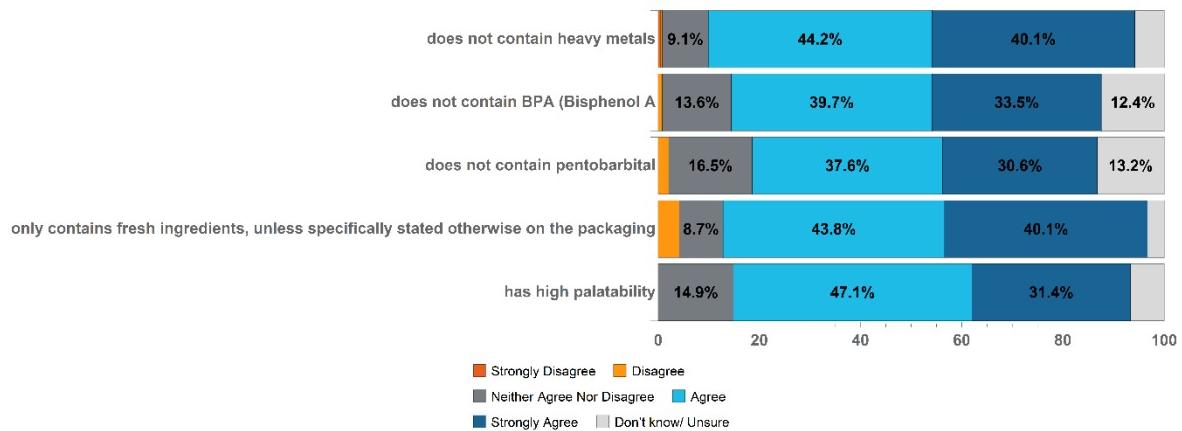
Source: BRG analysis based on Expectation Study responses

Figure 12: From the "Delivering nutrients naturally" statements on the dog food shown, I would expect that the dog food shown...
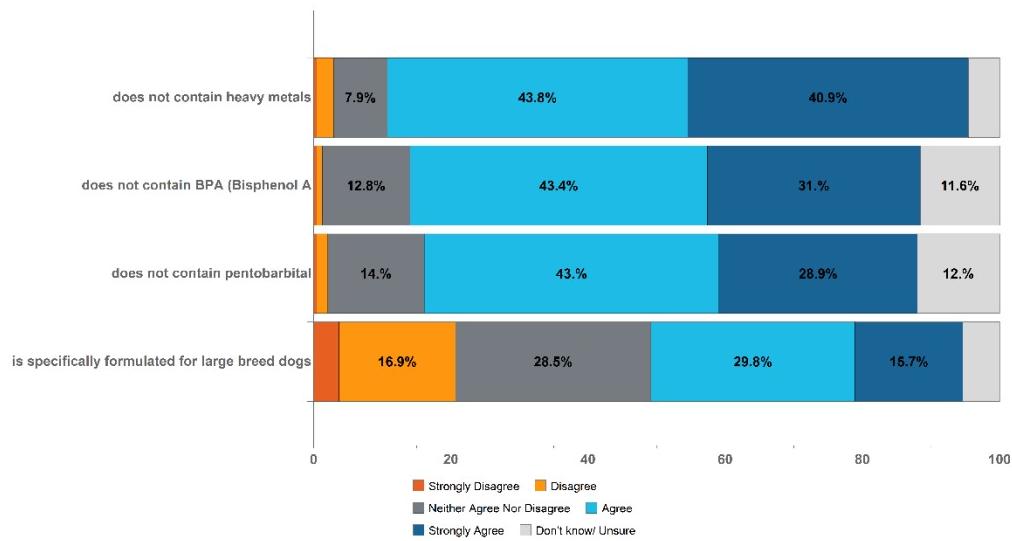

Source: BRG analysis based on Expectation Study responses

Figure 13: All else equal, does each label below make you more or less likely to purchase the dog food shown?
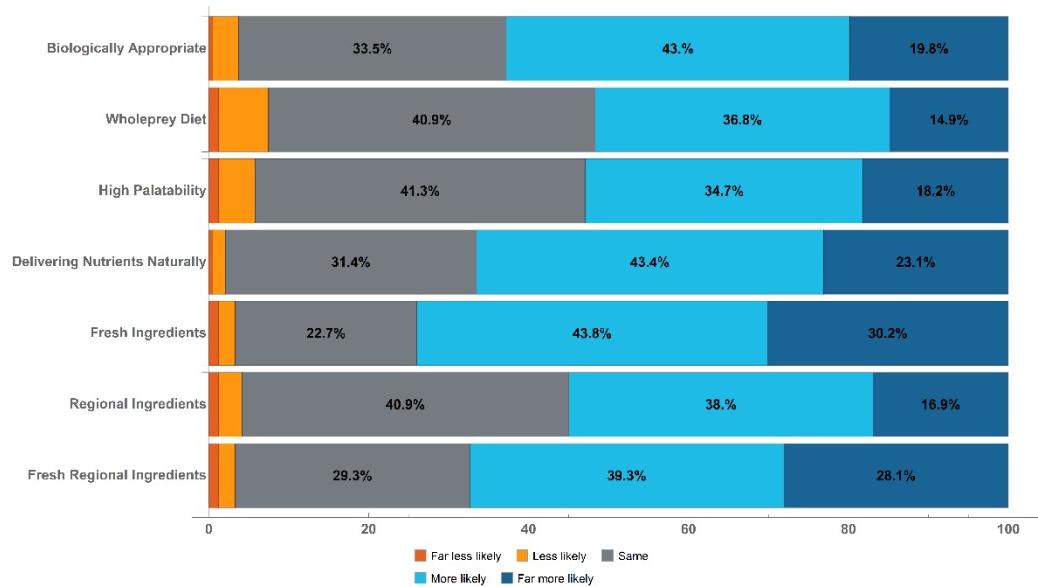
Source: BRG analysis based on Expectation Study responses

Figure 14: With regard to the dog food bag shown, if one or more of the following were true, would you be more or less likely to purchase the dog food shown?
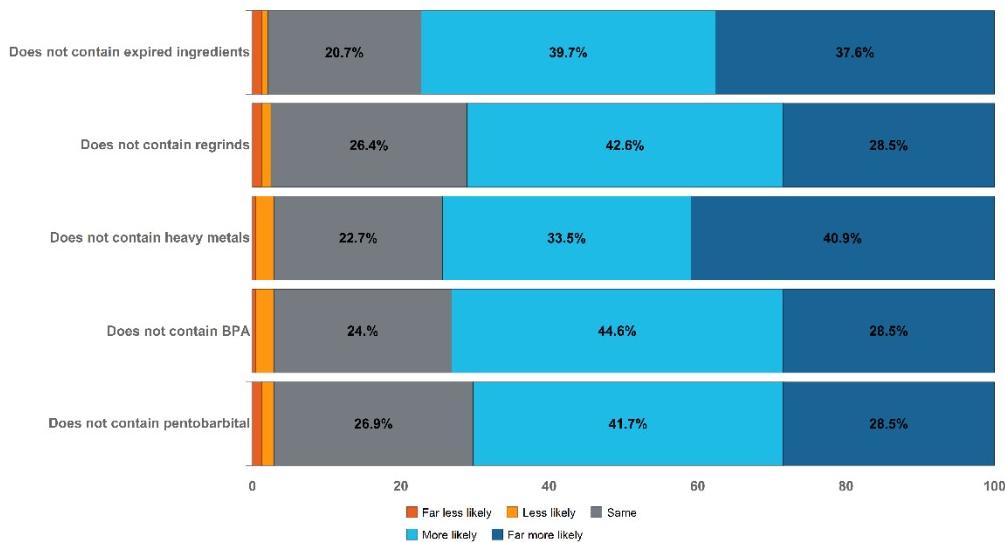
Source: BRG analysis based on Expectation Study responses

9   Summary and Conclusion

177.   In this report, I introduced a theoretical economic model that shows how the demand for a product changes when attributes and levels of attributes for that product change. If the change in a product's attributes makes the product less desirable in the eyes of the consumer then the consumer's demand curve shifts downward resulting in lower prices and less units sold.

178.   I further introduced the empirical, survey-based methodology of CBC as a reliable way to quantify the change in demand when the attributes of the product change (e.g., when claims about the product are false and misleading or when important information is omitted). I discussed how the well-established scientific methodology of Mixed Logit modeling and Hierarchical Bayesian Estimation can be used to analyze the data from the efficiently designed choice based Conjoint Analysis. The results from the conjoint analysis can be relied upon to draw inferences about the value of attributes to customers at the point of purchase and how such values will change when previously concealed misrepresentations or omissions are revealed to the consumer at the point of purchase,

179.   I designed two separate surveys (an omission survey and a misrepresentation survey) that enable the computation of the economic impact for a misrepresentation of a group of misrepresentation and an omission or a group of omissions on consumers who are in the process of purchasing Acana branded products.

180.   The results from the surveys showed that all of the misrepresentations and all of the omissions tested would result in an economic loss to the consumer when the truth would be revealed at the point of purchase (i.e., that certain facts were misrepresented and that certain facts that would make the product inferior were omitted). Further, the model enabled me to compute economic losses for individual misrepresentations, groups of misrepresentations, individual omissions, and groups of omissions.

181.   Based on the estimated demand curves, the economic losses were quantified in a market simulation as a percentage of the purchase price which makes them well suited for determination of class-wide economic losses. In this report, I gave numerous examples of how to use the results from the conjoint analysis to calculate the dollar value of economic losses for price points charged by Champion in the Actual-World.

182.   As described in the examples of the economic loss calculation, class-wide damages can be computed by obtaining:

   a. the retail revenue of the at-issue products in the Actual-World, which can also be derived from the retail prices paid by consumers and the number of bags sold,

   b. the misrepresentations and omissions that the Court find Champion liable for,

   c. multiplying the percentage economic loss with the price charged for the at-issue product, and the retail revenue in the actual world, and

   d. sum the losses per product across all at-issue products.

183.   If the Court finds Champion liable for the misrepresentations and omissions, the economic losses presented in this report are similar to the price premium for Acana products over non-premium brand products, such as Pedigree as shown in Paragraph 175 above. Therefore, the results of my conjoint study are reasonable and reliable.

184.   The expectations survey that I designed and implemented demonstrated that consumers are misled by Champion's packaging misrepresentations and omissions and that the misrepresentations and omissions have an impact on the purchase intention of consumers.

Respectfully submitted on February 24, 2021

_____

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Education
- BS in Statistics,
  University of Dortmund, Germany
- BA in Business Administration
  University of Dortmund, Germany
- MS in Statistics
  University of Dortmund, Germany
- MA in Economics
  University of California, San Diego
- Met Ph.D. requirements except dissertation in Economics,
  University of California, San Diego

Professional Associations
- Member of the American Economic Association (AEA)
- Member of the American Statistical Association (ASA)
- Member of the Econometric Society
- Member of the Mathematical Association of America (MAA)
- Member of the American Association for Public Opinion Research (AAPOR)
- Member of the Insights Association (FKA MRA)
- In 2001 Stefan was a member of an AICPA task force dealing with Corporate Integrity Agreements (CIA). Stefan was responsible for issues related to statistical methodology utilized in CIA's.

Background

Stefan is a Managing Director at Berkeley Research Group where he focuses on the application of economic, statistical, and financial models to a variety of areas such as solutions to business issues, complex litigation cases, and economic impact studies. He has extensive experience applying economic and statistical theories and methodologies to a wide variety of cases where But-for-scenarios have to be developed based on probabilistic methods and where statistical predictive modeling has to be applied to assess liability and damages.

Stefan has applied these techniques in business disputes, single-plaintiff cases, multi-plaintiff cases, and class action proceedings in the areas of class certification, liability assessment, developing damages scenarios, and post settlement or judgment distributions.

Professional and Business Experience

Representative Engagements

Litigation

» In a class action alleging misleading advertising practices, Stefan performed statistical analyses in the class certification stage.

» For a major healthcare provider involved in a dispute with a potential class of more than 3,000 other providers over allegedly excessive outlier payments Stefan performed economic and statistical analyses. Ultimately, class certification was denied in that case.

» In a class action alleging discriminatory allocation of public funds by a large metropolitan transportation authority, Stefan performed statistical analyses of transportation data.

» In a multi-plaintiff case against a state authority on improper funding of special education programs, Stefan performed statistical analyses of funding related ledger data.

» In a class action alleging improper practices of charges for gym memberships, Stefan performed statistical analyses in the class certification analysis. Based on the analysis, the ultimately certified class was significant smaller than initially defined. In this case, Stefan also developed statistical models to assess damages.

Exhibit A

»   In a class action alleging losses to consumers due to faulty window regulators in automobiles, Stefan utilized statistical models to assess economic damages.

»   In a class action against a large financial institution alleging fee overcharges for personal trust accounts, Stefan utilized statistical analyses to segment the account holders and ultimately reduce the size of the class.

»   In a class action case where a provider of a used car evaluation model was ordered by the court to test if their model did not significantly undervalued cars, Stefan performed statistical analyses.

»   In a class action case over fee overcharges in the payment process of car insurance, Stefan developed a distribution model of repayments to class members after a settlement had been reached.

»   In a class action of home owners over alleged diminution of property values due to proximity to a plume of contaminated soil, Stefan performed statistical analysis to assist counsel in a motion against class certification.

»   In a natural resource damage class action case, Stefan provided econometric analysis of property value loss due to proximity to a solid waste site utilizing hedonic regression models.

»   For a class action case involving potential damage from a landfill in a state park, Stefan analyzed data about travel, tourism and park attendance. Stefan specified and estimated linear regression models and time series models to predict park attendance.

»   In a class action case involving alleged diminution of property values due to ground-water contamination, Stefan specified and estimated hedonic regression models to show that other factors than the contamination contributed significantly to the loss in property value.

»   In a class action against a large financial institution alleging non-payment of coupon payments for bearer bonds Stefan designed and administered large-scale databases to reconstruct accounting records of a large financial institution's Corporate Trust Department. He developed statistical models to analyze bondholders' presentment behavior of Bearer bonds.

»   In a class action dispute between the Department of Interior and individual Native Americans over mismanagement of individual trust accounts, Stefan performed a statistical analysis of an electronic database with approximately 60 million records in order to draw a statistically valid sample of accounts for further analysis.

»   In a trademark infringement case of video equipment, Stefan calculated damages based on the defendant's unjust enrichment utilizing statistical time trend models.

»   For a shareholder derivative action against a leading publicly-traded health care provider, employed an econometric approach to quantify potential damages per share due to alleged section 10b-5 violations and other claims. For the same matter, developed a multi-trader model to estimate the number of shares potentially damaged.

»   In a dispute between a major health care provider and private payor groups, Stefan developed statistical stratified sampling models to assess exposure across different contract types.

Exhibit A

» For a large financial institution's personal trust department involved in a consumer class action, Stefan designed a random sample to estimate the potential exposure due to fee overcharges.

» For a computer equipment leasing company involved in an employee class action, Stefan utilized statistical models to estimate exposure due to alleged forfeiture of unpaid vacation time in a class action of former and current employees.

» For a limousine company involved in a wage and hour class action, Stefan developed a statistical sampling based exposure model to quantify the impact of alleged unpaid overtime and missed meal breaks.

» In several cases involving 12-hour shift workers at hospitals Stefan performed rebuttal analyses of plaintiff's damages computations.

» For a large electronic retail chain Stefan calculated exposure based on the failure of paying overtime for store managers.

» For a major department store Stefan performed a statistical analysis of manager surveys where he found significant differences in the managers' allocation of time across department and stores. Ultimately, due to these differences a class was not certified.

» For a large sporting goods retail chain Stefan assisted in defining the size of the potential class and in estimating the potential exposure which led to a favorable, early settlement of the case.

» For a women's shoes retail chain Stefan designed and statistically analyzed an observational study to quantify the amount of time spent on exempt versus non-exempt tasks.

» For a video rental store chain Stefan developed sampling algorithms based on in-store security cameras to analyze time spent by assistant managers on exempt versus non-exempt activities.

» For a large fast food chain Stefan directed a team collecting employee work information from restaurant locations in order to monitor and gain compliance in response to litigation

» For a large mass merchandiser Stefan developed a document and data reconciliation tool and he developed a statistical sampling mechanism to proof compliance with a court ordered document retention procedures in the course of a wage and hour litigation.

» Stefan worked with a Fortune 500 bank in a class action suit to review the claims of managers that were misclassified and should have been paid overtime. To compute damages, Stefan reviewed the overtime records of employees in this position prior to a job classification change and, in the absence of overtime data after the job classification change, Stefan reviewed sign in and sign out times of the office building.

» For a long-term care provider Stefan used data from timesheets, payroll, and other scheduling records to create comprehensive reports showing potential exposure for each of the claimed areas: timely wage payment, overtime wage payment, adequate daily meal and rest break periods, and travel time compensation.

Exhibit A

» For a maternity clothing store chain Stefan performed analyses related to exempt/non-exempt status issues for managers and assistant managers. Stefan also conducted a break time analysis for all employees.

» For a commercial flooring contractor Stefan assessed the job duties and responsibilities of a group of supervisors. During the engagement, the scope of work expanded to include an analysis of misclassification and back-pay exposure for additional groups of employees.

» For a software developer Stefan analyzed how department and project specific characteristics impacted the work flow and the correlation of that impact to certain exemptions.

» For a large meatpacker Stefan conducted a time and motion study to properly assess the duration of certain separately compensated activities to rebut allegations of violation of minimum wage laws.

» For a public university housing department Stefan conducted an extensive time and motion study to identify the tasks (and associated time range to perform each task) related to processing a contract cancellation.

» For a large drugstore chain Stefan used in-store cameras for the smaller stores and actual in-store observations for the larger stores to conduct a time motion study and quantify the time spent by assistant managers on certain pre-defined tasks.

» For a large public storage company Stefan conducted a detailed time and motion study to determine the cost of collection and administration of late payments. Using both self-logging and independent review techniques, Stefan defined each step in the late payment process, calculated the cost to the company for such activities, and compared this cost to the late fees under dispute.

» For a large retail store chain Stefan performed statistical analyses of regularly conducted employee activity surveys.

» For a mass merchandiser, Stefan conducted an observational study of activities of all individuals classified as managers to show significant differences in daily activities.

» For a department store, Stefan conducted an in-store observational study of managers and assistance managers to assess the percentage of time spent on managerial tasks.

» For a state ferry system in the Pacific Northwest, Stefan conducted an observational study of engine room personnel during shift changes to quantify potentially unpaid time worked.

» For a large retail chain Stefan conducted an extensive analysis of the company's compliance with break time rules and regulations and also the employees' usage and potential abuse of break time.

» For a large mass merchandise retailer Stefan compiled a comprehensive database of punch clock data, payroll data, point of sales data, hardcopy information about manual edits of time entries, store security system data, etc. to analyze allegations of inserting breaks, deleting time and forcing employees to work after they clocked out.

Exhibit A

» For a large electronic retail chain Stefan analyzed time card data, point of sales data and other store specific attributes to quantify potentially missed meal and rest breaks.

» In a gender discrimination case involving a client in the food processing industry, Stefan analyzed the impact of the implementation of an Affirmative Action Plan on the allegedly discriminatory employment practices.

» In a class action case alleging age discrimination for a vegetable seed company, Stefan performed rebuttal work of the plaintiff's expert's liability and damages analysis.

» In a class action case alleging age discrimination for a major aerospace company, Stefan performed statistical analyses to rebut allegations of age discrimination.

» In a class action race discrimination suit against the Alabama Department of Transportation, Stefan developed statistical regression models and tests to analyze the alleged discrimination.

» In a class action gender discrimination case against a large real estate brokerage firm, Stefan provided deposition testimony to class certification issues.

» In a gender discrimination case against a temporary employment agency, Stefan performed econometric analyses to disprove salary discrimination against two former female employees. Stefan addressed plaintiffs' expert's damages calculations and developed alternative scenarios.

» For a large meat processing plant, Stefan performed statistical analyses of employment data to address allegations of discriminatory hiring practices.

» For a leading publicly-traded developer of enterprise management software, Stefan employed a statistical approach to demonstrate the diversity of investment styles among proposed lead plaintiffs for a securities class action lawsuit alleging section 10b-5 violations and other claims. For the same matter, Stefan employed an econometric approach to estimate potential damages for each lead plaintiff.

» For a leading publicly-traded developer of enterprise management software, Stefan employed an econometric time-series model to analyze allegations of insider trading and the timing of certain stock transactions relative to information available to officers in the company.

» For a shareholder derivative action against a leading publicly-traded health care provider, employed an econometric approach to quantify potential damages per share due to alleged section 10b-5 violations and other claims. For the same matter, developed a multi-trader model to estimate the number of shares potentially damaged.

» For a publicly-traded manufacturer of office supplies, developed a Black-Scholes application and utilized a binomial distribution probability methodology to evaluate the appropriateness of the size of a loan loss reserve related to a loan collateralized by the assets of an employee stock purchase plan.

» For a large software developer, Stefan performed statistical modeling to assist in a securities class action litigation involving allegations of improper revenue recognition, reserve allocations, financial statement disclosures and other accounting irregularities

Exhibit A

» For a failed computer hardware company in defense of a 10b-5 securities litigation action, Stefan performed statistical analyses of accounting transactions, inventory and receivable reserves and the auditor's work papers in its evaluation of the allegations.

» In several Rule 10b(5) class actions, Stefan used the event study approach to calculate the value line of a security. In these cases Stefan applied complex and advanced one, two, and multi-trader models.

Non-Litigation

» For large grocery store chains, Stefan analyzed the effectiveness of a frequent shopper card program utilizing data mining techniques. He also analyzed customer data to facilitate the introduction of one-to-one marketing tools.

» For a grocery store chain, Stefan utilized econometric elasticity models to recommend pricing strategies for in-store promotions.

» For a grocery store chain, Stefan developed customer segmentation models to design segment specific marketing campaigns.

» For the American Film Marketing Association, Stefan performed an economic impact study of the influence of the independent film producers and distributors on the U.S. economy in general, and the California economy in particular.

» For a large entertainment client, Stefan developed statistical models to predict the return of video cassettes and DVDs.

» For several clients in the retail industry, Stefan developed statistical models to estimate the liability of unredeemed gift certificates.

» For a client in the restaurant business, Stefan developed statistical models to quantify the dollar amount of outstanding unredeemed gift certificates.

» For a major hotel chain, Stefan developed statistical models to forecast the redemption of frequent traveler program points for tax purposes.

» For a high profile e-commerce company, Stefan's team produced an interactive business decision tool to forecast company growth and profitability. The interactive model allows the client, through the choice of a few fundamental inputs, to measure the simultaneous impact on all cost and revenue dimensions of the company, including real estate and equity participation.

» For the Nevada Resort Association, Stefan quantified the economic impact of the gaming industry with special emphasis on the accelerated population growth in greater Las Vegas.

» For the Los Angeles Unified School District, Stefan performed an economic study about the impact of different recycling programs.

» For the Los Angeles County Department of Health Services, Stefan conducted a time and motion study to determine the time required to complete specific Medi-Cal eligibility and provider forms.

Exhibit A

» For the Arizona Tax Research Association, Stefan developed economic models to quantify the revenue impact of a proposed change of taxation in the construction sector in Arizona.

» For a hotel property management company, Stefan analyzed customer data, and used data mining methods to develop predictive models for customer acquisition, retention, and attrition.

» For a project analyzing the extent of competition in the market segments of a pipeline company, Stefan estimated regression and Tobit-models to determine optimal bidding behavior for gas storage demand. He prepared testimony given in filings before the Federal Energy Regulatory Commission (FERC).

» For a hotel property management company, Stefan developed a demand driven yield management system.

» For a company providing self-storage space, Stefan developed a demand driven price-setting strategy utilizing own- and cross-price elasticity regression models.

» For a high-tech start-up with a unique service offering of new products, Stefan recommended product-pricing scenarios.

» For a large international conglomerate, Stefan developed customized data mining techniques for the implementation within a customer knowledge management system.

» For a large law firm, Stefan performed a comprehensive statistical analysis of Los Angeles Superior Court jury verdicts over the last decade. The project tested the hypothesis of systematic bias in particular courthouses with respect to plaintiff-win probability, length of trial, length of deliberation, and dollar amounts awarded.

Depositions

1. MRO Communications, Inc vs. American Telephone and Telegraph Company, United States District Court District of Nevada, Case. No. -5-95-903-PMP, Deposition onSeptember 26, 1996

2. Yolanda Aiello Harris, individually and on behalf of all others similarly situated; Jennifer Hopkins, individually and on behalf of others similarly situated; Shannon L. Bradley, individually and on behalf of others similarly situated, Plaintiffs, vs. CB Richard Ellis, Inc., a California corporation; CB Commercial INC., a California corporation; Defendants, Superior Court of California, County of San Diego, Case No. GIC 745044, Deposition on January 5, 2001.

3. State of Tennessee, ex rel., Douglas Sizemore, Petitioner vs. Xantus Healthplan of Tennessee, Inc., Chancery Court of Davidson County, Tennessee at Nashville, Case No 99-917-II, Deposition on October 11, 2001.

4. Howard Wright, Inc., a California corporation doing business as AppleOne Employment Services, Plaintiffs, vs. Olsen Staffing Services, Inc., a Delaware Corporation, Dagney Smith, an individual, Vicky Riechers, an individual, and Linda Shiftman, an individual, Defendants, Superior Court of the State of California for the County of Los Angeles, Case No. BC 200657, Deposition on December 7, 2001.

Exhibit A

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5. Sacred Heart Medical Center, et al., Plaintiffs, -vs- Department of Social and Health Services, and Dennis Braddock, the Secretary of the Department of Social and Health Services, Defendants, Superior Court of the State of Washington in and for the County of Thurston, No. 00-2-01898-1, Deposition on January 23, 2003.

6. Patrick Bjorkquist individually and on behalf of all others similarly situated, Plaintiff, vs. Farmers Insurance Company of Washington, Defendant, in the Superior Court of the State of Washington for King County, Case No.: 02-2-11684-1 SEA, Deposition on November 3, 2003.

7. Diversified Property, a general partnership, Dora Saikhon Family Trust, and Nancy Saikhon Borrelli, an individual, Plaintiffs vs. Manufacturers Life Insurance (U.S.A.), a Michigan corporation, erroneously sued as Manufacturers Life Insurance Company, Inc., Defendants in the Superior Court of California, County of San Diego, Case No.: GIC 815128, Deposition on July 21, 2004.

8. Alan Powers, Plaintiff, vs. Laramar Group et al., Defendants in the United States District Court, Northern District of California, No. C-02-3755 SBA, Deposition on August 27, 2004.

9. Group Anesthesia Services, A Medical Group, Inc., Claimant, vs. American Medical Partners of North Carolina, Inc., etc., et al., Respondents, JAMS Arbitration, Reference No. 1100040919, Deposition on February 9, 2005.

10. Group Anesthesia Services, A Medical Group, Inc., Claimant, vs. American Medical Partners of North Carolina, Inc., etc., et al., Respondents, JAMS Arbitration, Reference No. 1100040919, Deposition on March 11, 2005.

11. Fujitsu v. Cirrus Logic et al., United States District Court, Northern District of California, San Jose Division, Case No. 02CV01627. Deposition on April 21 and 22, 2005.

12. Goldman et al. v. RadioShack Corporation, United States District Court, Eastern District of Pennsylvania, Case No. 03 CV 0032, Deposition on May 18, 2005.

13. Perez et al. v. RadioShack Corporation, United States District Court, Northern District of Illinois, Eastern Division, Case No. 02-CV-7884, Deposition on December 13, 2005.

14. United States of America ex rel. A. Scott Pogue v. American Healthcorp Inc., Diabetes Treatment Centers of America Inc., et al., United States District Court, Middle District of Tennessee at Nashville, Civil No. 3-94-0515, Deposition on May 12, 2006.

15. School Districts' Alliance v. State of Washington, United States District Court, Eastern District of Thurston, Case No. 04-2-02000-7, Deposition on July 20, 2006.

16. Boca Raton Community Hospital, Inc., a Florida not-for-profit corporation d/b/a Boca Raton Community Hospital, on behalf of itself and on behalf of Class of all others similarly situated v. Tenet Healthcare Corp., a Nevada Corporation, United States District Court, Southern District of Florida, Miami Division, Case No. 05-80183-CIV-SEITZ/MCALILEY, Deposition on July 25, 2006.

17. Boca Raton Community Hospital, Inc., a Florida not-for-profit corporation d/b/a Boca Raton Community Hospital, on behalf of itself and on behalf of Class of all others similarly situated v. Tenet Healthcare Corp., a Nevada Corporation, United States District Court, Southern District of Florida, Miami Division, Case No. 05-80183-CIV-SEITZ/MCALILEY, Deposition on October 13, 2006.

Exhibit A

18. Louise Ogborn v. McDonald's Corporation et al., Commonwealth of Kentucky 55th Judicial District, Bullitt County Circuit Court, Case No. 04-CI-00769, Deposition on October 19, 2006.

19. Elise Davis v. Kohl's Department Stores, Inc. consolidated with Rosie Grindstaff v. Kohl's Department Stores, Inc., Superior Court of the State of California for County of Los Angeles Central District, Case No. BC 327426 (lead case) consolidated with Case No. BC 341954, Deposition on April 25, 2007.

20. Norman Utley, et al., v. MCI, Inc., MCI Worldcom Communications, Inc., and MCI Network Services, Inc., formerly known as MCI Worldcom Network Services, Inc., United States District Court, Northern District of Texas, Dallas Division, Civil Action No. 3:05 - CV- 0046 - K, Deposition on May 30, 2007.

21. Ramon Moreno and Ernesto Morailo, on behalf of themselves and all others similarly situated v. Guerrero Mexican Food Products Inc., a division of Gruma Corporation; and Gruma Corporation, a Nevada Corporation, United States District Court, Central District of California, Case No. CV05-773RSWL(PLAx), Deposition on August 10, 2007.

22. Darensburg et al. v. Metropolitan Transportation Commission, U.S. District Court, Northern District of California, Case No. C-05-1597-EDL, Deposition on March 18, 2008.

23. In Re: King Pharmaceuticals, INC, Derivative Litigation, Lead Case No: BOO19077(M), The Chancery Court, Sullivan County at Bristol, Tennessee, Deposition on April 4, 2008.

24. P. Ansley et al. v. Lewis Homes of California, a California General Partnership, et al., Superior Court of the State of California, For the County of Solano, Case No. FCS02445, Deposition on April 10, 2008.

25. Personnel Plus v. Ashish Wahi et al., Superior Court of the State of California, County of Orange, Case No. 07CC08363, Deposition on August 13, 2008.

26. First Capitol Consulting Inc. v. LVX, Inc. et al., Superior Court of the State of California for the County of Los Angeles, Case No. BC378202, Deposition on October 27, 2008.

27. R. Molina et al. v. Lexmark International, Inc., Superior Court of the State of California for the County of Los Angeles, Case No. BC339177, Deposition on November 19, 2008.

28. In re National Century Financial Enterprises, Inc. Investment Litigation, No. 2:03-MD-1565-JLG-MRA (S.D. Ohio), Deposition on January 22, 2009.

29. New York City Employees' Retirement System, et al. v. Bank One, N.A., et al., Case No. 03-cv-09973 (LAK) (S.D.N.Y.), Deposition on January 22, 2009.

30. Dole Fresh Fruit International, Ltd, Hyundai Precision America, Inc., JAMS Arbitration, ADRS Case #05-1138-RTA, Deposition on December 21, 2009.

31. D. Berry, L. Hedges et al. v. Volkswagen of America, Inc. In The Circuit Court of Jackson County, Missouri, at Independence, No. 0516-CV01171 Division 2, Deposition on February 18, 2010.

Exhibit A

32. D. Aberle et al. v. Davidson Builders, Inc., et al., Superior Court of the State of California, County of Orange, Case No.: 37-2008-00083718-CU-CD-CTL, Deposition on March 24, 2010.

33. Urga, et al. v. Redlands Community Hospital, Superior Court of the State of California, County of San Bernardino, Case No. SCVSS 123769, Deposition on May 17, 2010.

34. Oberschlake, et al v. St. Joseph Hospital of Orange, et al, Superior Court of the State of California, County of Orange, Case No. 05CC00301, Deposition on August 12, 2010.

35. J. Morrison v. The Vons Companies, Inc., Superior Court of State of California, County of San Diego, Case No. 37-2009-00081026-CU-BT-CTL, Deposition on December 7, 2010

36. R. Pate, et al. v. Children's Hospital of Orange County, Superior Court of California, County of Orange, Case No. 05CC00303, Deposition on April 13, 2011.

37. M. St. Croix, et al. v. Cedar Fair, L.P., et al., Superior Court of California, County of Orange, Case No. 30-2008-0214500, Deposition on August 22, 2011.

38. Steven Domalewski, a minor v. Hillerich and Bradsby Co., et al., Superior Court of New Jersey, Passaic County, Docket No.: PAS-L-2119-08, Deposition on January 5, 2012.

39. Cathleen McDonough, et al., v. Horizon Blue Cross/Blue Shield of New Jersey, United States District Court, District of New Jersey, Civil Action No. 09-cv-00571-(SRC) (PC), Deposition on January 10, 2012.

40. Daniel Ordonez, et al., v. Radio Shack, United States District Court, Central District of California, Case No. CV 10-07060 CAS (JCGx), Deposition on October 24, 2012.

41. Ameritox, Ltd., v. Millennium Laboratories, Inc., United States District Court, Middle District of Florida, Case No. 8:11-cv-00775-SCB-TBM, Deposition on December 20, 2013.

42. United States of America, ex rel. Glenda Martin v. Life Care Centers of America, Inc., United States District Court Eastern District of Tennessee at Chattanooga, Civ. Action No. 1:08-CV-251, Deposition on January 15, 2014.

43. United States of America, ex rel. Tammie Taylor v. Life Care Centers of America, Inc., United States District Court Eastern District of Tennessee at Chattanooga, Civ. Action No. 1:12-CV-64, Deposition on January 15, 2014.

44. Darren Smith, et al., v. Panera Bread Company, Superior Court of California, County of San Diego, Case No. 37-201-00084077 CU-BT-CTL, Deposition on April 30, 2014.

45. Joseph Hummel et al., v. Castle Principles, LLC et al., Superior Court of California, County of Santa Clara, Case No. 112CV223170, Deposition on June 19, 2014.

46. Sherman Way Oil, Inc. (Bijan Pouldar), American Pacific Enterprises Group (Sherwin Louie), Bahman Kohanteb, Hamid Kalhor, Claimants, Vs. Circle K Stores, Inc., Respondent, Alternative Dispute Resolution Case No's 13-7103-DSC through 13-7106-DSC, Deposition on September 25, 2014.

Exhibit A

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47. In re: ExxonMobil Oil Corporation, et al., Southern California Bulk Sale Litigation, Case No. CV12-04689-PA (VBKx), Deposition on September 25, 2014.

48. Oracle Wage and Hour Cases, Raghunandam Matam et al., v. Oracle Corporation, Superior Court of California, County of Alameda, No. RG-09480164, Deposition on October 21, 2014.

49. G. Taylor et al. v. Shippers Transport Express, Inc., et al., United States District Court, Central District of California, Case No.: CV13-02092-BRO (PLAx), Deposition on October 24, 2014.

50. Denise Mays et al. v. Children's Hospital of Los Angeles, Superior Court of California, County of Los Angeles, Case No. BC477830, Deposition on March 17, 2015.

51. Direct General Insurance Company v. Indian Harbor Insurance Company et al., United States District Court, Southern District of Florida, Miami Division, Case No. 14-20050-CIV-Cooke/Torres, Deposition on March 27, 2015.

52. Dennis Dickman v. Gerdau Reinforcing Steel, et al., Superior Court of California, County of San Bernardino, Case No. CIV-DS-1406231, Deposition on July 7, 2015.

53. Fred Devries, et al. v. Morgan Stanley & Co. LLC, et al., United States District Court, Southern District of Florida, Case No. 9:12-cv-81223-KAM, Deposition on July 31, 2015.

54. Dennis Dickman v. Gerdau Reinforcing Steel, et al., Superior Court of California, County of San Bernardino, Case No. CIV-DS-1406231, Deposition on September 11, 2015

55. Leah Davis, and Amy Krajec, et al. v. St. Jude Hospital, Superior Court of California, County of Orange, Case No. 30-2012-00602596-CU-OE-CXC, Deposition on January 19, 2016.

56. In re MyFord Touch Consumer Litigation, Whalen, et al. vs. Ford Motor Company, United States District Court Northern District of California San Francisco Division, Case No. 13-cv-3072-EMC, Deposition on February 23, 2016.

57. United States of America, ex rel. Glenda Martin v. Life Care Centers of America, Inc., United States District Court Eastern District of Tennessee at Chattanooga, Civ. Action No. 1:08-CV-251 & United States of America, ex rel. Tammie Taylor v. Life Care Centers of America, Inc., United States District Court Eastern District of Tennessee at Chattanooga, Civ. Action No. 1:12-CV-64, Deposition on March 4, 2016.

58. The United States of America and the State of Florida ex rel. Angela Ruckh v. CMC II LLC, United States District court for the Middle District of Florida Tampa Division, Civil Action No. 8:11 CV 1303 SDM-TBM, Deposition on March 16, 2016.

59. Michael Bozsik v. Livingston International Inc., Ontario Superior Court of Justice, Court File No. 5270/14, Cross Examination on May 12, 2016.

60. Bertha Sanchez, et al. v. St. Mary Medical Center, et al., Superior Court of the State of California for the County of San Bernardino, Case No. CIVDS 1304898, Deposition on July 13, 2016.

Exhibit A

61.   Christian Juarez, et al v. Dignity Health, a California corporation, et al., Superior Court of the State of California, County of Los Angeles, Central Civil West District, Case No. BC550950, Deposition on August 15, 2016.

62.   In Re Dial Complete Marketing and Sales Practices Litigation, United States District Court, District of New Hampshire, Case No. 11-md-2263-SM (MDL Docket No. 2263), Deposition on August 30, 2016.

63.   In Re: Myford Touch Consumer Litigation, United States District Court, Northern District of California, San Francisco Division, Case No. 13-cv-3072-EMC, Deposition on September 16, 2016.

64.   United Healthcare Insurance Company v. Lincare Inc., Case Improvement Plus of Texas Insurance Company: Care Improvement Plus South Central Insurance Company: Care Improvement Plus of Maryland, Inc. v. Lincare Inc., In an Arbitration Before the American Arbitration Association, Case No. 01-15-0003-4095, Deposition on December 21, 2016.

65.   The Moses H. Cone Memorial Hospital Operating Corporation d/b/a Cone Health v. Springfield Service Corporation d/b/a SPI Healthcare, United States District Court for the Middle District of North Carolina, Civil Action No. 1:13-cv-651, Deposition on January 17, 2017.

66.   The People of the State of California, acting by and through Orange County District Attorney Tony Rackauckas v. General Motors LLC, Superior Court of the State of California in and for the County of Orange Complex Litigation Division, Case No. 30-2014-00731038-CU-BT-CX, Deposition on April 20 and 21, 2017.

67.   In Re: Emerson Electric Co. Wet/Dry Vac Marketing and Sales Litigation, United States District Court for the Eastern District of Missouri, MDL No. 2382, Civil Action No. 4:12-md-2382-HEA, Deposition on May 17, 2017.

68.   The People of the State of California, acting by and through Orange County District Attorney Tony Rackauckas v. General Motors LLC, Superior Court of the State of California in and for the County of Orange Complex Litigation Division, Case No. 30-2014-00731038-CU-BT-CX, Rebuttal Deposition on June 13, 2017.

69.   Clayton Dezan, et al. v. Dignity Health, a California Corporation; Community Hospital of San Bernardino, et al, Superior Court of The State of California for the County of San Bernardino, Case No. CIVDS1516658, Deposition on August 22, 2017.

70.   Millennium Health, LLC v. Blue Shield of California, Counterclaim, Blue Shields of California v. Millennium Health, LLC, American Arbitration Association, Case No. 01-15-0005-5926, Deposition on August 24, 2017.

71.   Matthew Townsend, et al. v. Monster Beverage Corporation and Monster Energy Company, United States District Court Central District of California, Case No. 5:12-cv-02188 VAP (KKx), Deposition on September 20, 2017.

72.   Welltower Inc., v. Scott M. Brinker, In the Court of Common Pleas Lucas County, Ohio, Case No. CI-17-2692, Deposition on October 4th, 2017.

Exhibit A

73. In Re Seagate Technology LLC Litigation, United States District Court, Northern District of California San Jose Division, Case No. 5:16-cv00523-RMW, Deposition on December 12th, 2017.

74. Joanne Hart and Sandra Bueno v. BHH, LLC d/b/a Bell + Howell and Van Hauser LLC, United States District Court for the Southern District of New York, Case No. 1:15-CV-04804-WHP, Deposition on January 26th, 2018.

75. Thomas Davidson, et al v. Apple Inc., United States District Court Northern District of California San Jose Division, Case No. 5:16-cv-04942-LHK, Deposition on January 29, 2018.

76. In Re: General Motors, LLC Ignition Switch Litigation, United States District Court Southern District Of New York, Case No. 14-MD-2543 (JMF), Deposition on February 6th and 7th, 2018.

77. Bertha Sanchez, et al. v. St. Mary Medical Center, Superior Court of the State of California for the County of San Bernardino, Case No. CIVDS 1304898, Deposition on March 29, 2018.

78. The State of Texas v. Xerox Corporation, et al., The District Court 53rd Judicial District Travis County, Texas, Cause No. D-1-GV-14-000581, Deposition on April 12, 2018.

79. Wendy Manemeit, et al. v. Gerber Products Co., The United States District Court for the Eastern District of New York, No. 2:17-cv00093, Deposition on May 10, 2018.

80. Theodore Broomfield, et al., v. Craft Brew Alliance, Inc., et al., United Stated District Court, Northern District of California, San Jose Division, Case No. 5:17-cv-01027-BLF, Deposition on June 20, 2018.

81. In RE: General Motors, LLC Ignition Switch Litigation, United States District Court, Southern District of New York, Case No. 14-MD-2543 (JMF), Deposition on July 5, 2018 and July 6, 2018.

82. Brendan C. Haney v. Costa Del Mar Inc., In The Circuit Court, Fourth Judicial Circuit, in and for Duval County, Florida, Case No. 16-2017-CA-004797-XXXX-MA, Deposition on November 27, 2018.

83. Patricia Weeks, et al. v. Google LLC, United States District Court Northern District of California San Jose Division, Case No. 5:18-cv-00801-NC, Deposition on December 21, 2018.

84. Frederick Sharp v. Wolf Appliance, Inc., The United States District court for the Eastern District of New York, Civil Action No. 1:18-CV-01723-JS-GRB, Deposition on January 3, 2019.

85. Kellie Loeb, et al. v. Champion Petfoods USA Inc. and Champion Petfoods LP, United States District Court Eastern District of Wisconsin Milwaukee Division, Case No. 2:18-cv-00484-JPS, Deposition on January 8, 2019.

86. Fremont Emergency Services (Mandavia), Ltd v. Rocky Mountain Hospital and Medical Service, Inc. d/b/a Anthem Blue Cross and Blue Shield and HMO Colorado, Inc. d/b/a HMO Nevada, In the Judicial Arbitration and Mediation Services, JAMS No. 12600004507, Deposition on January 25, 2019.

87. United States of America ex rel. Lori Morsell, v. Symantec Corporation, United States District Court for The District of Columbia, C.A. No. 12-0800 (RC), Deposition on February 28, 2019.

Exhibit A

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88. Jeff Young v. Cree, Inc., United States District Court Northern District of California Oakland Division, Case No. 4:17-cv-06252-YGR, Deposition on March 12, 2019.

89. Raymond Foreman et. al. v. Shlomo Rechnitz et. al., JAMS Judicial Arbitration, No. 120052954, Deposition on March 21, 2019.

90. Thomas Davidson, et al v. Apple Inc., United States District Court Northern District of California San Jose Division, Case No. 5:16-cv-04942-LHK, Deposition on March 27, 2019.

91. Sepehr Forghani, as an aggrieved employee pursuant to the Private Attorney General Act ("PAGA") v. Whole Foods Market California, Inc., a California Corporation; Mrs. Gooch's Natural Food Markets, Inc., a California Corporation, Superior Court of The state of California, County of Los Angeles, Case No. BC637964, Deposition on April 16, 2019.

92. Weiner v. Ocwen Financial Corporation, United States District Court, Eastern District of California, Case No. 2:14-cv-02597-MCE-DB, Deposition on April 19, 2019.

93. Dennis MacDougall, Ray Seow, Prabhanjan Kavuri, Richard Frick, Joseph Ryan Parker, and Bryan Lentz v. American Honda Motor Co., Inc., and Honda North America, Inc., United States District Court, Central District of California, Case No. 8:17-cv-01079, Deposition on April 23, 2019.

94. Yan Mei Zheng-Lawson v. Toyota Motor Corporation, Toyota Motor North America, Inc., and Toyota Motor Sales U.S.A., Inc., United States District Court, Northern District of California, Case No. 17-CV-06591-BLF, Deposition on June 28, 2019.

95. Shaya Eidelman v. The Sun Products Corporation and Costco Wholesale Corporation, United States District Court, For The Southern District of New York, Case No. 7:16-cv-03914-NSR, Deposition on July 22, 2019.

96. Dara Fresco and Canadian Imperial Bank of Commerce, Ontario Superior Court of Justice, Court File No. 07-CV-334113CP, Deposition on October 3, 2019.

97. Inteliquent, Inc. v. Free Conferencing Corporation; HDPSTN, LLC d/b/a HD Tandem; Wide Voice, LLC; Yakfree, LLC; and Carrierx, LLC, United States District Court for the Northern District of Illinois Eastern Division, Case No. 1:16-CV-06976, Deposition on October 18, 2019.

98. Elaine Rice and Alex Kukich v. Electrolux Home Products, Inc., United States District Court for The Middle District of Pennsylvania, Case No. 15-cv-00371, Deposition on December 13, 2019.

99. Richard Sotelo, et al. v. Rawlings Sporting Goods Company, Inc., United Stated District Court Central district of California, Case No. 2:18-cv-09166-GW-MAA, Deposition on February 14, 2020.

100. Kieran O'Hara, et al. v. Diageo Beer Company USA & Diageo North America, Inc., United States District Court District of Massachusetts, Case No. 1:15-cv-14139-MLW, Deposition on February 20, 2020.

101. Ira Kleiman, as the personal representative of the Estate of David Kleiman, and W&K Info Defense Research, LLC v. Craig Wright, United States District Court, Southern District of Florida, Case No. 9:18-cv-80176-BB/BR, Deposition on April 22, 2020.

Exhibit A

102. Richard Ferrari, et al. v. Vitamin Shoppe, Inc., The United States District Court for the District of Massachusetts, Civil Action No. 1:17-cv-10475-GAO, Deposition on July 23, 2020.

103. Jennifer Song and Scott Wertkin, et al. v. Champion Petfoods USA, Inc. and Champion Petfoods LP, United States District Court District of Minnesota, Case No. 18-cv-03205-PJS-KMM, Deposition on December 02, 2020.

104. Michael Maeda and Rick Smith, et al. v. Kennedy Endeavors, Inc., United states District Court for The District of Hawaii, Case No. 18-00459 JAO-WRP, Deposition on December 11, 2020.

105. Robert Van Bebber, et al. v. Dignity Health, United States District Court Eastern District of California, Case No. 1:19-cv-00264-DAD-EPG, Deposition on December 16, 2020.

106. Humana, Inc. v. Life Care Centers of America, Inc., American Arbitration Association, Case No. 01-17-0007-1697, Deposition on December 22, 2020.

107. Youssif Kamal, et al. v. Eden Creamery, LLC., et al., United States District Court Southern District of California, Case No. 18-cv-1298 BAS AGS, Deposition on December 29, 2020.

108. Altamonte Pediatric Associates, P.A. v. Greenway Health, LLC, United States District Court Middle District of Florida Tampa Division, Case No. 8:20-cv-00604, Deposition on January 28, 2021.

109. Jill Hennessey, et al. v. Kohl's Corporation and Kohl's Department Stores, Inc., United States District Court Eastern District of Missouri Eastern Division, Case No. 4:19-cv-01866-DDN, Deposition on February 09, 2021.

Testimony

1. State of Tennessee, ex rel., Douglas Sizemore, Petitioner vs. Xantus Healthplan of Tennessee, Inc., Chancery Court of Davidson County, Tennessee at Nashville, Case No 99-917-II, Trial Testimony on October 16, 2001.

2. State of Tennessee, ex rel., Douglas Sizemore, Petitioner vs. Xantus Healthplan of Tennessee, Inc., Chancery Court of Davidson County, Tennessee at Nashville, Case No 99-917-II, Rebuttal Testimony on October 26, 2001.

3. Howard Wright, Inc., a California corporation doing business as AppleOne Employment Services, Plaintiffs, vs. Olsen Staffing Services, Inc., a Delaware Corporation, Dagney Smith, an individual, Vicky Riechers, an individual, and Linda Shiftman, an individual, Defendants, Superior Court of the State of California for the County of Los Angeles, Case No. BC 200657, Trial Testimony on March 4, 2002.

4. Columbia/HCA Healthcare Corporation - Billing Practices Litigation, United States District Court, Middle District of Tennessee, Nashville Division, Case No. 3-98-MDL-1227 on June 28, 2002.

5. Sacred Heart Medical Center, et al., Plaintiffs v. Department of Social and Health Services, and Dennis Braddock, the Secretary of the Department of Social and Health Services, Defendants, Superior Court of the State of Washington in and for the County of Thurston, No. 00-2-01898-1, Testimony in Liability Trial on April 14, 2003.

Exhibit A

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6. Diversified Property, a general partnership, Dora Saikhon Family Trust, and Nancy Saikhon Borrelli, an individual, Plaintiffs v. Manufacturers Life Insurance (U.S.A.), a Michigan corporation, erroneously sued as Manufacturers Life Insurance Company, Inc., Defendants in the Superior Court of California, County of San Diego, Case No.: GIC 815128, Trial Testimony on October 25, 2004.

7. Bridgestone/Firestone North American Tire v. Sompo Japan Ins. Co. of America, United States District Court for the Middle District of Tennessee Nashville Division Civil Action NO. 3-02-1117 on March 7, 2005

8. Group Anesthesia Services, A Medical Group, Inc., Claimant, vs. American Medical Partners of North Carolina, Inc., etc., et al., Respondents, JAMS Arbitration, Reference No. 1100040919, Arbitration Testimony on March 23, 2005.

9. Goldman et al. v. RadioShack Corporation, United States District Court, Eastern District of Pennsylvania, Case No. 03 CV 0032, Testimony in Liability Trial on June 28 and 29, 2005.

10. Goldman et al. v. RadioShack Corporation, United States District Court, Eastern District of Pennsylvania, Case No. 03 CV 0032, Rebuttal Testimony in Liability Trial on July 5, 2005.

11. Mauna Loa Vacation Ownership LLP v. Accelerated Assets, LLP. United States District Court, District of Arizona, Case No. CIV 03-0846 PCT DGC. Trial Testimony on February 22, 2006.

12. School Districts' Alliance v. State of Washington, United States District Court, Eastern District of Thurston, Case No. 04-2-02000-7, Trial Testimony on November 13, 2006.

13. In the Matter of Premier Medical Group, PC, Appellant – Department of Health and Human Services, Office of Medicare Hearings and Appeals, Southern Field Office, ALJ Appeal No. 1-221579701, Medicare Appeal No. 1-18761858, Provider No. 3706654, AR No. 9406352171039, Judge Zaring Robertson, US Administrative Law Judge, Testimony on April 1, 2008.

14. Darensburg et al. v. Metropolitan Transportation Commission, U.S. District Court, Northern District of California, Case No. C-05-1597-EDL, Trial Testimony on October 9, 2008.

15. R. Molina et al. v. Lexmark International, Inc., Superior Court of the State of California for the County of Los Angeles, Case No. BC339177, Trial Testimony on October 22 and 26, 2009.

16. Dole Fresh Fruit International, Ltd, Hyundai Precision America, Inc., ADRS Case #05-1138-RTA, Trial Testimony on February 19, 2010.

17. In the matter of University of Tennessee Cancer Institute, ALJ Appeal No. 1-446 575 318, Office of Medicare Hearings & Appeals, Judge Z. Robertson, US Administrative Law Judge, Testimony on April 20, 2010.

18. Urga, et al. v. Redlands Community Hospital, Superior Court of the State of California, County of San Bernardino, Case No. SCVSS 123769, Trial Testimony on July 20, 2010.

19. Marine Engineers' Beneficial Association v. Department of Transportation, Ferries Division Federal Mediation & Conciliation Service Cause No. 110105-52404-6 AGO Matter No. 10499471, July 19, 2011.

Exhibit A

20. Richard Robinson v. County of Los Angeles, et. al., United States District Court of California, Central District, Case No. CV06-2409 GAF (VBKx), Trial Testimony on December 1, 2011.

21. In the matter of American Home Patient, ALJ Hearing, Appeal No. 1-982137828, Office of Medicare Hearings & Appeals, Miami Office Southern Field Division, Testimony on October 29, 2012.

22. In the matter of American Home Patient, ALJ Hearing, Appeal No. 1-924297238, Office of Medicare Hearings & Appeals, Irvine Office Western Field Division, Hearing Testimony on February 28, 2013.

23. TaylorMade Golf Company Challenge to Callaway Golf Company's Final Response, National Advertising Division, New York, Testimony on March 13, 2013.

24. United States of America, ex rel. Tammie Taylor v. Life Care Centers of America, Inc., United States District Court Eastern District of Tennessee at Chattanooga, Civ. Action No. 1:12-CV-64, Testimony on May 13, 2014.

25. United States of America v. Houshang Pavehzadeh, United States District Court for the Central District of California, No. CR 13-0320-R, Testimony on May 19, 2014.

26. Sherman Way Oil, Inc. (Bijan Pouldar), American Pacific Enterprises Group (Sherwin Louie), Bahman Kohanteb, Hamid Kalhor, Claimants, Vs. Circle K Stores, Inc., Respondent, Alternative Dispute Resolution Case No's 13-7103-DSC through 13-7106-DSC, Arbitration Testimony on October 10, 2014.

27. Heidi's Children Dental Center (DC14-0813-204-LM) vs. Denti-Cal, Testimony at Administrative Law Judge Hearing, Judge Lewis Munoz, in Los Angeles on November 5, 2014.

28. AdvanceMed Audit of Altercare of Wadsworth, Medicare Appeal, Medicare Appeal No. 1-912446681, Bertha Sanchez, et al. v. St. Mary Medical Center, et al., Superior Court of the State of California for the County of San Bernardino, Case No. CIVDS 1304898, Certification Hearing Testimony on October 21, 2016.

29. Bertha Sanchez, et al. v. St. Mary Medical Center, et al., Superior Court of the State of California for the County of San Bernardino, Case No. CIVDS 1304898, Certification Hearing Testimony on October 21, 2016.

30. In Re Dial Complete Marketing and Sales Practice Litigation, United States District Court, District of New Hampshire, Case No. 11-md-2263-SM (MDL Docket No. 2263), Hearing Testimony on November 16, 2016.

31. United Healthcare Insurance Company v. Lincare Inc., Case Improvement Plus of Texas Insurance Company: Care Improvement Plus South Central Insurance Company: Care Improvement Plus of Maryland, Inc. v. Lincare Inc., In An Arbitration Before the American Arbitration Association, Case No. 01-15-0003-4095, Arbitration Testimony on February 6, 2017.

32. The United States of America and The State of Florida ex rel. Angela Ruckh v. CMC II, LLC, United States District Court for the Middle District of Florida Tampa Division, Civil Action No. 8:11 CV 1303 SDM-TBM, Trial Testimony on February 8, 2017.

Exhibit A

33. Federal Government of Germany v. A Consortium of Publicly Traded Companies in an arbitration under the laws of Germany, Arbitration Testimony on March 21 and 22, 2017.

34. In Re Determination of Royalty Rates and Terms for Transmission of Sound Recordings by Satellite Radio and "Preexisting" Subscription Services (SDARS III), United States Copyright Royalty Judges The Library of Congress Washington, D.C., Docket No. 16-CRB-0001-SR/PSSR (2018-2022), Trial Testimony on May 9, 2017.

35. ZPIC Audit Appeal of Providence Health System Southern California, Office of Medicare Hearings and Appeals, OMHA Appeal Number 1-1823418684, Hearing Testimony on October 16, 2017.

36. New Beacon Healthcare Group, LLC, Medicare Appeal Number 1-1269788965, Hearing Testimony on December 1, 2017.

37. Arriva Medical LLC, Office of Medicare Hearing and Appeals, ALJ appeal No. 1-1874414073, Post Pre-Hearing Conference Testimony on March 23, 2018.

38. Christopher Corbin, et al. v. Indus Investment, Inc., Superior Court of the State of California for the County of Los Angeles, Case No. BC565881, Trial testimony on April 6, 2018.

39. Toll Collect GmbH v. Federal Republic of Germany, Hearing Testimony on April 16, 2018.

40. Arriva Medical, LLC, ALJ Appeal No: 1-1945149644 (Sub-Universe August 2013), Appellant's Hearing Testimony on April 18, 2018.

41. Arriva Medical, LLC, ALJ Appeal No: 1-2049326076 (Sub-Universe September 2013), Telephonic Hearing Testimony on September 11, 2018.

42. Arriva Medical, LLC, ALJ Appeal No: 1-1572478459 (Sub-Universe January to June 2013), Telephonic Hearing Testimony on September 20, 2018.

43. Brendan C. Haney v. Costa Del Mar Inc., In The Circuit Court, Fourth Judicial Circuit, in and for Duval County, Florida, Case No. 16-2017-CA-004797-XXXX-MA, Hearing Testimony on December 5, 2018.

44. Arriva Medical, LLC, ALJ Appeal Number: 1-2159094909, Telephonic Hearing Testimony on January 23, 2019.

45. Bay Hospital, Inc. d/b/a Gulf Regional Medical Center, et. al., v. WellCare of Florida, Inc. f/k/a WellCare HMO, Inc., WellCare of Georgia, Inc., and WellCare of South Carolina, American Arbitration Association, Case No. 01-19-003-9745, Telephonic Arbitration Hearing on June 10, 2020.

Speaking Engagements

1. Global Brand protection: Challenges and Opportunities, December 8, 2015.

2. Washington Health Care Conference, May 2016.

3. 4th Advanced Forum on False Claims & Qui Tam Enforcement Conference, January 2017.

Exhibit A

BRG
Berkeley Research Group

4. False Claims Act/Qui Tam Whistleblowers Litigation: Hot Buttons in 2017 Live Webcast, March 2017.

5. Fraud & Abuse: Part II – Understanding Statistical Sampling, Lrive Webcast, September 2017.

6. American Hospital Association Chief Compliance Officers Roundtable: Defending against audits using statistical sampling and extrapolation, April 2018.

7. How to Effectively Use Statistical Sampling in Class Action Litigation: Tips and Strategies in 2019 Live Webcast, December 2018.

8. Statistical Sampling in Healthcare Audits and Investigations, HCCA's 23rd Annual Compliance Institute, April 9, 2019.

9. False Claims Act: A Look Back and 2021 Expectations LIVE Webcast, The Knowledge Group Webinar, December 03, 2020.

Publications

Boedeker, Stefan and Goetz Trenkler (2001) - "A Comparison of the Ridge and Iteration Estimator" - in:

Econometric Studies: A Festschrift in Honour of Joachim Frohn (ed. by Ralph Friedmann, Lothar Knueppel, and Helmut Luetkepohl), New Brunswick

Professional and Business History

» Berkeley Research Group, 2010 - Present, Managing Director

» Resolution Economics, 2008 - 2010, Partner

» Alvarez & Marsal, 2007 - 2008, Managing Director

» LECG LLC, 2005 - 2007, Director

» Navigant Consulting Inc., 2004 -2005, Managing Director in Litigation and Investigation Practice

» Deloitte & Touche LLP, 2003 - 2004, Leader of the Economic and Statistical Consulting Practice in the West Region

» PricewaterhouseCoopers LLP, 2002 - 2003, Leader of the Litigation Consulting Group in Los Angeles, Leader of the Economic and Statistical Consulting Practice in the West Region

» Andersen LLP, 1992 - 2002, Partner (since 2000), last position held: Director of Economic and Statistical Consulting practice in the Pacific Region

» University of California, San Diego, 1989 - 1991, Teaching Assistant, Department of Economics

» German Government, 1986 - 1989, Economic Research Assistant

Exhibit B

List of Documents Relied Upon

Case Documents

1. Second Amended Class Action Complaint, Colangelo et al. v. Champion Petfoods USA, Inc. and Champion Petfoods LP, United States District Court for the Northern District of New York, Case No. 18-cv-01228-LEK-DEP, dated April 24, 2020.

2. Deposition Transcript of Kathleen Paradowski, Colangelo, et al. v. Champion Petfoods USA, Inc. and Champion Petfoods LP, United States District Court Northern District of New York, Case No. 18-cv-01228, dated October 28, 2020.

Documents Reviewed

3. CPF0017614

4. CPF0017743

5. CPF2117040

6. CPF1813214

7. CPF1767531

8. CPF2117046-8

9. CPFB00042

10. 25LBAcanaMeadowland_2015.pdf

11. Expert Report of Dr. Robert H. Poppenga, DVM, PhD, DABVT, dated August 06, 2019, Scott Weaver v. Champion Petfoods USA Inc. and Champion Petfoods LP, United States District Court Eastern District of Wisconsin Milwaukee Division, Case No. 2:18-cv-1996-JPS.

Additional Documents Reviewed

*Other documents considered in forming my opinon, including publicly available journal articles and books, are referenced in the report and footnotes.

Appendix 1
Survey
Screenshots

Acana

Misrepresentation

For this survey, we have some questions about your purchase preferences. We also have some questions about you and your household to help us make sure we include a variety of people in this study.

Please indicate which of the following industries you or a close family member have worked for pay in the past two years.
Please select all that apply

An advertising agency or market research firm	An online travel agency or airline	A company that provides cloud storage	A company that manufactures or sells dog food	None of the above

Survey ended if selected "A company that manufactures or sells dog food" or "An advertising agency or market research firm."

What is your gender?

| Male | Female |

What is your age?

| Below 18 | 18 - 29 | 30 - 44 | 45 - 59 | 60 or higher |

Survey ended if selected "Below 18."

The next question is about the total income of YOUR HOUSEHOLD for last calendar year – for the 12 months of 2019. Please include your income PLUS the income of all members living in your household (including cohabiting partners and armed forces members living at home). Please count income BEFORE TAXES and from all sources (such as wages, salaries, tips, net income from a business, interest, dividends, child support, alimony, Social Security, public assistance, pensions, and retirement benefits).

What was your total HOUSEHOLD income for the 12 months of 2019?

Less than $25,000	$25,000 to $34,999	$35,000 to $49,999	$50,000 to $74,999	$75,000 to $99,999	$100,000 to $149,999	$150,000 or more	Prefer not to answer

In which state do you live?

Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut
Delaware	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana
Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts
Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada
New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio
Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee
Texas	Utah	Vermont	Virginia	Washington	Washington, DC	West Virginia
Wisconsin	Wyoming	Other	Not in US			

Survey ended if selected "Other" or "Not in the US."

What is the highest level of school you have completed?

| Less than high school | High school | Some college | Bachelor's degree or higher |

How many dogs have you had in the past three years?

| None | 1 | 2 | 3 | 4 or more |

Survey ended if selected "None."

How many dogs do you currently have?

| None | 1 | 2 | 3 | 4 or more |

Number of categories shown depends on answer to previous question. The number of "current" dogs is assumed to be less than or equal to the number of dogs in the past 3 years. (For this document, "4 or more" was selected for the previous question.)

How old is/are your dog(s) currently?
Please select all that apply

0 – 2 years old	3 – 5 years old	6 – 8 years old	9 – 11 years old	12 – 15 years old	Over 15 years old	Deceased

Number of categories the respondent is allowed to select depends on the number of current dogs reported. For example, if the respondent reported 2 current dogs, then the respondent would not be allowed to select more than two categories for the question above.

Have you purchased dog food in the past 3 years?

Yes	No

Survey ended if selected "No."

For the dog food you purchased in the past three years which of the following statements are true.
Please select all that apply

| I made the purchase decision myself | I was involved in the decision making | Someone else made the purchase decision |

Survey ended if "Someone else" is the only selection.

What types of dog food have you purchased in the past three years?
Please select all that apply

Dry food	Wet food	Other (specify)

Survey ended if "Dry food" *not* selected.

Which of these dog food brands have you purchased, or have you considered purchasing in the past three years?

Select the dog food brand even if you have purchased / considered a different flavor than the one shown. Please select all that apply.

Acana

Blue

Blue Wilderness

Castor & Polloux Pristine-Raw Bites

Earthborn Natural

Fromm 4 Star

Fromm Gold

Go Sensitive

None of the above

Acana

Blue

Blue Wilderness

Castor & Polloux Pristine-Raw Bites

Earthborn Natural

Fromm 4 Star

Fromm Gold

Go Sensitive

GO! Fit and Free

Holistic Select

Instinct Original Grain Free

None of the above

Note that this page covers the same question as the previous page, but it is scrolled down slightly to show the brand text below the last row of bags.

Which of these dog food brands have you purchased, or have you considered purchasing in the past three years?

Select the dog food brand even if you have purchased / considered a different flavor than the one shown. Please select all that apply.

K9 Natural	Kirkland Signature Nature's Domain	Merrick Backcountry	Merrick Classics
Merrick Grain Free	Natural Balance	Nature's Variety	NOW Fresh
			None of the above

K9 Natural

Kirkland Signature Nature's Domain

Merrick Backcountry

Merrick Classics

Merrick Grain Free

Natural Balance

Nature's Variety

NOW Fresh

NutriSource Grain Free

Nutro

Open Farm

None of the above

Note that this page covers the same question as the previous page, but it is scrolled down slightly to show the brand text below the last row of bags.

Which of these dog food brands have you purchased, or have you considered purchasing in the past three years?

Select the dog food brand even if you have purchased / considered a different flavor than the one shown. Please select all that apply.

Orijen	Primal	Purina Pro Plan	Rawz
SOJO's Complete Beef	Stella & Chewy's	Taste of the Wild	Vital Essentials Limited Ingredient
		None of the above	

Survey ended if selected "None of the above" for this screen and the previous 2 screens.

Orijen

Primal

Purina Pro Plan

Rawz

SOJO's Complete Beef

Stella & Chewy's

Taste of the Wild

Vital Essentials Limited Ingredient

Wellness CORE

Zignature

None of the above

Note that this page covers the same question as the previous page, but it is scrolled down slightly to show the brand text below the last row of bags.

Please, select "Dog Food" to continue.

| Dog Food | Pet Food | Cat Food | Fish Food |

Survey ended if "Dog Food" not selected.

Next, we have a brief exercise to help us learn about your dog food purchase preferences. Assume that you are purchasing a 25-pound bag of Acana Regionals Meadowland dry dog food.

Please examine the image below of the front of the dog food bag.

Roll over image to zoom

Please confirm that you have reviewed the dog food image above.

| Yes, I reviewed the dog food bag. | No, I did not review the dog food bag. |

Must select "Yes" to continue.

Next, we have a brief exercise to help us learn about your dog food purchase preferences. Assume that you are purchasing a 25-pound bag of Acana Regionals Meadowland dry dog food.

Please examine the image below of the front of the dog food bag.

This shows the front of the bag zoomed after hovering over the package image. By moving the mouse around, the whole package can be viewed zoomed in.

Roll over image to zoom

Please confirm that you have reviewed the dog food image above.

| Yes, I reviewed the dog food bag. | No, I did not review the dog food bag. |

Next, please examine the image below of the back of the dog food bag.

Roll over image to zoom

Please confirm that you have reviewed the dog food image above.

| Yes, I reviewed the dog food bag. | No, I did not review the dog food bag. |

Must select "Yes" to continue.

Next, please examine the image below of the back of the dog food bag.

This shows the back of the bag zoomed after hovering over the package image. By moving the mouse around, the whole package can be viewed zoomed in.

Roll over image to zoom

Please confirm that you have reviewed the dog food image above.

| Yes, I reviewed the dog food bag. | No, I did not review the dog food bag. |

On the next 15 screens you will see different combinations of dog food labels that may be present on the bag at various price points.

On each screen, please select the option that matches your preference. Assume that the dog food varies only on the features presented on the choice screen.

There are no right or wrong answers. We are simply interested in your opinion. We hope you find this exercise interesting.

The following attribute descriptions have been pulled directly from the dog food bag. You will be able to view this information again during your exercise.

Attribute	Description
Biologically Appropriate	**BIOLOGICALLY APPROPRIATE**™ Our foods mirror the richness, freshness and variety of meats for which DOGS ARE EVOLVED TO EAT.
WholePrey Diet	**WHOLEPREY**™ **DIET** POULTRY | ORGANS | CARTILAGE IN HER ETERNAL WISDOM, MOTHER NATURE MATCHED THE NUTRIENTS FOUND IN WHOLE PREY ANIMALS TO PERFECTLY MEET THE NEEDS OF YOUR DOG.
High Palatability	**HIGH PALATABILITY** INFUSED WITH FREEZE-DRIED CHICKEN LIVER
	FRESH REGIONAL INGREDIENTS

Scroll down.

Ingredient Sourcing	**FRESH REGIONAL INGREDIENTS** We focus on fresh ingredients from our region that are ranched, farmed or fished by people we know and trust.
	FRESH INGREDIENTS We focus on fresh ingredients.
	REGIONAL INGREDIENTS We focus on ingredients from our region.
Delivering Nutrients Naturally	**DELIVERING NUTRIENTS NATURALLY**
Price	Price per 25-pound bag

Please confirm that you have read the attribute descriptions provided above.

| Yes | No |

Must select "Yes" to continue.

This is an example choice set.

*This is **scenario 1 of 15**.*

Please indicate which of the given options you would select. Hover your mouse over the (i) icon to see more information for each attribute. If a cell is BLANK, then no labels regarding the attribute are found on the dog food bag.

	Option 1	Option 2
WholePrey Diet ⓘ	WHOLEPREY DIET	WHOLEPREY DIET
Biologically Appropriate ⓘ	BIOLOGICALLY APPROPRIATE	BIOLOGICALLY APPROPRIATE
Delivering Nutrients Naturally ⓘ	DELIVERING NUTRIENTS NATURALLY	
Ingredient Sourcing ⓘ	FRESH INGREDIENTS	REGIONAL INGREDIENTS
High Palatability ⓘ		
Price ⓘ	$57.99	$46.99
Which option would you prefer?	○	○

This is **scenario 1 of 15**.

Please indicate which of the given options you would select. Hover your mouse over the (i) icon to see more information for each attribute. If a cell is BLANK, then no labels regarding the attribute are found on the dog food bag.

	Option 1	Option 2
WholePrey Diet (i)		LEPREY DIET
Biologically Appropriate (i)		LLY APPROPRIATE
Delivering Nutrients Naturally (i)		
Ingredient Sourcing (i)	FRESH INGREDIENTS	REGIONAL INGREDIENTS
High Palatability (i)		
Price (i)	$57.99	$46.99
Which option would you prefer?	○	○

WHOLEPREY™ DIET

POULTRY | ORGANS | CARTILAGE

IN HER ETERNAL WISDOM, MOTHER NATURE MATCHED THE NUTRIENTS FOUND IN WHOLE PREY ANIMALS TO PERFECTLY MEET THE NEEDS OF YOUR DOG.

This page and several following pages show the content that appears for the mouse hover over. The hover overs have the same information as was shown in the table before the beginning of the conjoint exercise.

This is **scenario 1 of 15**.

Please indicate which of the given options you would select. Hover your mouse over the (i) icon to see more information for each attribute. If a cell is BLANK, then no labels regarding the attribute are found on the dog food bag.

	Option 1	Option 2
WholePrey Diet ⓘ		OLEPREY DIET
Biologically Appropriate ⓘ		ALLY APPROPRIATE
Delivering Nutrients Naturally ⓘ		
Ingredient Sourcing ⓘ	FRESH INGREDIENTS	REGIONAL INGREDIENTS
High Palatability ⓘ		
Price ⓘ	$57.99	$46.99
Which option would you prefer?	○	○

BIOLOGICALLY APPROPRIATE™

Our foods mirror the richness, freshness and variety of meats for which DOGS ARE EVOLVED TO EAT.

*This is **scenario 1 of 15**.*

Please indicate which of the given options you would select. Hover your mouse over the (i) icon to see more information for each attribute. If a cell is BLANK, then no labels regarding the attribute are found on the dog food bag.

	Option 1	Option 2
WholePrey Diet (i)	WHOLEPREY DIET	WHOLEPREY DIET
Biologically Appropriate (i)		CALLY APPROPRIATE
Delivering Nutrients Naturally (i)	DELIVERING NUTRIENTS NATURALLY	
Ingredient Sourcing (i)		NAL INGREDIENTS
High Palatability (i)		
Price (i)	$57.99	$46.99
Which option would you prefer?	○	○

*This is **scenario 1 of 15**.*

Please indicate which of the given options you would select. Hover your mouse over the (i) icon to see more information for each attribute. If a cell is BLANK, then no labels regarding the attribute are found on the dog food bag.

	Option 1	Option 2
WholePrey Diet (i)	WHOLEPREY DIET	WHOLEPREY DIET
Biologically Appropriate (i)		...ALLY APPROPRIATE
Delivering Nutrients Naturally (i)		
Ingredient Sourcing (i)		...NAL INGREDIENTS
High Palatability (i)		
Price (i)		$46.99
Which option would you prefer		○

FRESH REGIONAL INGREDIENTS

We focus on fresh ingredients from our region that are ranched, farmed or fished by people we know and trust.

FRESH INGREDIENTS

We focus on fresh ingredients.

REGIONAL INGREDIENTS

We focus on ingredients from our region.

*This is **scenario 1 of 15***.

Please indicate which of the given options you would select. Hover your mouse over the (i) icon to see more information for each attribute. If a cell is BLANK, then no labels regarding the attribute are found on the dog food bag.

	Option 1	Option 2
WholePrey Diet (i)	WHOLEPREY DIET	WHOLEPREY DIET
Biologically Appropriate (i)	BIOLOGICALLY APPROPRIATE	BIOLOGICALLY APPROPRIATE
Delivering Nutrients Naturally (i)	DELIVERING NUTRIENTS NATURALLY	
Ingredient Sourcing (i)		NAL INGREDIENTS
High Palatability (i)		
Price (i)		$46.99
Which option would you prefer		○

HIGH PALATABILITY
INFUSED WITH FREEZE-DRIED CHICKEN LIVER

*This is **scenario 1 of 15**.*

Please indicate which of the given options you would select. Hover your mouse over the (i) icon to see more information for each attribute. If a cell is BLANK, then no labels regarding the attribute are found on the dog food bag.

	Option 1	Option 2
WholePrey Diet ⓘ	WHOLEPREY DIET	WHOLEPREY DIET
Biologically Appropriate ⓘ	BIOLOGICALLY APPROPRIATE	BIOLOGICALLY APPROPRIATE
Delivering Nutrients Naturally ⓘ	DELIVERING NUTRIENTS NATURALLY	
Ingredient Sourcing ⓘ	FRESH INGREDIENTS	REGIONAL INGREDIENTS
High Palatability ⓘ		
Price ⓘ	Price per 25-pound bag	$46.99
Which option would you prefer?	○	○

*This is **scenario 1 of 15**.*

Please indicate which of the given options you would select. Hover your mouse over the (i) icon to see more information for each attribute. If a cell is BLANK, then no labels regarding the attribute are found on the dog food bag.

	Option 1	Option 2
WholePrey Diet (i)	WHOLEPREY DIET	WHOLEPREY DIET
Biologically Appropriate (i)	BIOLOGICALLY APPROPRIATE	BIOLOGICALLY APPROPRIATE
Delivering Nutrients Naturally (i)	DELIVERING NUTRIENTS NATURALLY	
Ingredient Sourcing (i)	FRESH INGREDIENTS	REGIONAL INGREDIENTS
High Palatability (i)		
Price (i)	$57.99	$46.99
Which option would you prefer?	◉	○

Would you purchase the option you selected above?

Yes	No

After selecting their preferred option, the respondent is asked if they would purchase that option.

After completing their first choice set, a new choice set appears. Each respondent sees 15 choice sets.

Did you reside in Minnesota anytime from January 1, 2015 to the present?

Yes   No

Did you purchase Orijen or Acana dry dog food between January 1, 2015 and the present?

Yes	No	I don't know/Don't remember

This question is asked if "Yes" in the previous question.

Did you have a clear understanding of the questions in this survey?

Yes	No

Briefly describe what was not understandable:

The explanation box appears if "No" is selected.

Would you be willing to participate in a brief (less than 5 minutes) follow-up telephone interview for an additional incentive if selected at a later time?

| Yes | No |

Please enter your details:

Name	
Telephone number	
Best days / times to call	

This appears if "Yes" in the previous question.

Are you or are you not aware of any lawsuits involving a pet food company?

| I am aware of at least one lawsuit | I am not aware of any lawsuits | Don't know / Unsure |

Finally, do you have any additional feedback you would like to share with us? **This question is entirely optional**.

5000 characters remaining.

None

Acana Omission

For this survey, we have some questions about your purchase preferences. We also have some questions about you and your household to help us make sure we include a variety of people in this study.

Please indicate which of the following industries you or a close family member have worked for pay in the past two years.
Please select all that apply

An advertising agency or market research firm	An online travel agency or airline	A company that provides cloud storage	A company that manufactures or sells dog food	None of the above

Survey ended if selected "A company that manufactures or sells dog food" or "An advertising agency or market research firm."

What is your gender?

Male	Female

What is your age?

| Below 18 | 18 - 29 | 30 - 44 | 45 - 59 | 60 or higher |

Survey ended if selected "Below 18."

The next question is about the total income of YOUR HOUSEHOLD for last calendar year – for the 12 months of 2019. Please include your income PLUS the income of all members living in your household (including cohabiting partners and armed forces members living at home). Please count income BEFORE TAXES and from all sources (such as wages, salaries, tips, net income from a business, interest, dividends, child support, alimony, Social Security, public assistance, pensions, and retirement benefits).

What was your total HOUSEHOLD income for the 12 months of 2019?

Less than $25,000	$25,000 to $34,999	$35,000 to $49,999	$50,000 to $74,999	$75,000 to $99,999	$100,000 to $149,999	$150,000 or more	Prefer not to answer

In which state do you live?

Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut
Delaware	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana
Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts
Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada
New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio
Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee
Texas	Utah	Vermont	Virginia	Washington	Washington, DC	West Virginia
Wisconsin	Wyoming	Other	Not in US			

Survey ended if selected "Other" or "Not in the US."

What is the highest level of school you have completed?

Less than high school | High school | Some college | Bachelor's degree or higher

How many dogs have you had in the past three years?

| None | 1 | 2 | 3 | 4 or more |

Survey ended if selected "None."

How many dogs do you currently have?

| None | 1 | 2 | 3 | 4 or more |

Number of categories shown depends on answer to previous question. The number of "current" dogs is assumed to be less than or equal to the number of dogs in the past 3 years. (For this document, "4 or more" was selected for the previous question.)

How old is/are your dog(s) currently?
Please select all that apply

0 – 2 years old	3 – 5 years old	6 – 8 years old	9 – 11 years old	12 – 15 years old	Over 15 years old	Deceased

Number of categories the respondent is allowed to select depends on the number of current dogs reported. For example, if the respondent reported 2 current dogs, then the respondent would not be allowed to select more than two categories for the question above.

Have you purchased dog food in the past 3 years?

Yes	No

Survey ended if selected "No."

For the dog food you purchased in the past three years which of the following statements are true.
Please select all that apply

I made the purchase decision myself	I was involved in the decision making	Someone else made the purchase decision

Survey ended if "Someone else" is the only selection.

What types of dog food have you purchased in the past three years?
Please select all that apply

Dry food	Wet food	Other (specify)

Survey ended if "Dry food" *not* selected.

Which of these dog food brands have you purchased, or have you considered purchasing in the past three years?

Select the dog food brand even if you have purchased / considered a different flavor than the one shown. Please select all that apply.

Acana	Blue	Blue Wilderness	Castor & Polloux Pristine-Raw Bites
Earthborn Natural	Fromm 4 Star	Fromm Gold	Go Sensitive
			None of the above

Acana

Blue

Blue Wilderness

Castor & Polloux Pristine-Raw Bites

Earthborn Natural

Fromm 4 Star

Fromm Gold

Go Sensitive

GO! Fit and Free

Holistic Select

Instinct Original Grain Free

None of the above

Note that this page covers the same question as the previous page, but it is scrolled down slightly to show the brand text below the last row of bags.

Which of these dog food brands have you purchased, or have you considered purchasing in the past three years?

Select the dog food brand even if you have purchased / considered a different flavor than the one shown. Please select all that apply.

K9 Natural	Kirkland Signature Nature's Domain	Merrick Backcountry	Merrick Classics
Merrick Grain Free	Natural Balance	Nature's Variety	NOW Fresh
			None of the above

K9 Natural

Kirkland Signature Nature's Domain

Merrick Backcountry

Merrick Classics

Merrick Grain Free

Natural Balance

Nature's Variety

NOW Fresh

NutriSource Grain Free

Nutro

Open Farm

None of the above

Note that this page covers the same question as the previous page, but it is scrolled down slightly to show the brand text below the last row of bags.

Which of these dog food brands have you purchased, or have you considered purchasing in the past three years?
Select the dog food brand even if you have purchased / considered a different flavor than the one shown. Please select all that apply.

|			
Orijen	Primal	Purina Pro Plan	Rawz
SOJO's Complete Beef	Stella & Chewy's	Taste of the Wild	Vital Essentials Limited Ingredient
		None of the above	

Survey ended if selected "None of the above" for this screen and the previous 2 screens.

Orijen

Primal

Purina Pro Plan

Rawz

SOJO's Complete Beef

Stella & Chewy's

Taste of the Wild

Vital Essentials Limited Ingredient

Wellness CORE

Zignature

None of the above

Note that this page covers the same question as the previous page, but it is scrolled down slightly to show the brand text below the last row of bags.

Please, select "Dog Food" to continue.

| Dog Food | Pet Food | Cat Food | Fish Food |

Survey ended if "Dog Food" not selected.

Next, we have a brief exercise to learn about your dog food purchase preferences. Assume that you are purchasing a 25-pound bag of your favorite dry dog food.

The exercise has 15 screens with different combinations of dog food labels and prices. Assume that the dog food varies only on the features presented on the screen. Please select the option that matches your preference.

There are no right or wrong answers. We are simply interested in your opinion. We hope you find this exercise interesting.

Before beginning, please review the following attribute descriptions.

Attribute	Description
Artificial Preservatives	May contain artificial preservatives. Artificial preservatives are added to food to fight spoilage caused by bacteria, molds, fungus, and yeast.
Expired Ingredients	May contain expired ingredients. Expired ingredients are ingredients that have passed their "shelf life" date.
Heavy Metals	May contain measurable amounts of heavy metals such as lead, arsenic, mercury, and/or cadmium.
BPA	May contain measurable amounts of BPA. BPA is a chemical compound used in plastic.
Regrinds	May contain regrinds. Regrinds are previously made dry dog food that is ground and then used in another batch of dry dog food.
Price	Price per 25-pound bag

Please confirm that you have read the attribute descriptions provided above.

Yes	No

Must select "Yes" to continue.

This is an example choice set.

*This is **scenario 1 of 15**.*

Please indicate which of the given options you would select if a 25-pound bag of your favorite dog food had the following labels. If a cell is BLANK, then no labels regarding the attribute are found on your favorite dog food.

Option 1	Option 2
May contain **expired ingredients.** Expired ingredients are ingredients that have passed their "shelf life" date.	
May contain measurable amounts of **heavy metals** such as lead, arsenic, mercury, and/or cadmium.	
May contain **regrinds.** Regrinds are previously made dry dog food that is ground and then used in another batch of dry dog food.	May contain **regrinds.** Regrinds are previously made dry dog food that is ground and then used in another batch of dry dog food.
	May contain **artificial preservatives.** Artificial preservatives are added to food to fight spoilage caused by bacteria, molds, fungus, and yeast.
May contain measurable amounts of **BPA.** BPA is a chemical compound used in plastic.	May contain measurable amounts of **BPA.** BPA is a chemical compound used in plastic.
$66.99	$57.99
○	○

*This is **scenario 1 of 15.***

Please indicate which of the given options you would select if a 25-pound bag of your favorite dog food had the following labels. If a cell is BLANK, then no labels regarding the attribute are found on your favorite dog food.

Option 1	Option 2
May contain **expired ingredients.** Expired ingredients are ingredients that have passed their "shelf life" date.	
May contain measurable amounts of **heavy metals** such as lead, arsenic, mercury, and/or cadmium.	
May contain **regrinds.** Regrinds are previously made dry dog food that is ground and then used in another batch of dry dog food.	May contain **regrinds.** Regrinds are previously made dry dog food that is ground and then used in another batch of dry dog food.
	May contain **artificial preservatives.** Artificial preservatives are added to food to fight spoilage caused by bacteria, molds, fungus, and yeast.
May contain measurable amounts of **BPA.** BPA is a chemical compound used in plastic.	May contain measurable amounts of **BPA.** BPA is a chemical compound used in plastic.
$66.99	$57.99
◉	○

After selecting their preferred option, the respondent is asked if they would purchase that option.

Would you purchase the option you select

Yes	No

After completing their first choice set, a new choice set appears. Each respondent sees 15 choice sets.

Did you reside in Minnesota anytime from January 1, 2015 to the present?

Yes	No

Did you purchase Orijen or Acana dry dog food between January 1, 2015 and the present?

Yes	No	I don't know/Don't remember

This question is asked if "Yes" in the previous question.

Did you have a clear understanding of the questions in this survey?

Yes	No

Briefly describe what was not understandable:

The explanation box appears if "No" is selected.

Would you be willing to participate in a brief (less than 5 minutes) follow-up telephone interview for an additional incentive if selected at a later time?

Yes	No

Please enter your details:

Name	
Telephone number	
Best days / times to call	

This appears if "Yes" in the previous question.

Are you or are you not aware of any lawsuits involving a pet food company?

| I am aware of at least one lawsuit | I am not aware of any lawsuits | Don't know / Unsure |

Finally, do you have any additional feedback you would like to share with us? **This question is entirely optional**.

5000 characters remaining.

None

Expectation Survey

For this survey, we have some questions about your purchase preferences. We also have some questions about you and your household to help us make sure we include a variety of people in this study.

Please indicate which of the following industries you or a close family member have worked for pay in the past two years.
(Please select all that apply)

| A company that manufactures or sells dog food | An online travel agency or airline | A company that provides cloud storage | An advertising agency or market research firm | None of the above |

Survey ended if selected "A company that manufactures or sells dog food" or "An advertising agency or market research firm."

What is your gender?

Male	Female

What is your age?

| Below 18 | 18 - 29 | 30 - 44 | 45 - 59 | 60 or higher |

Survey ended if selected "Below 18."

The next question is about the total income of YOUR HOUSEHOLD for last calendar year – for the 12 months of 2020. Please include your income PLUS the income of all members living in your household (including cohabiting partners and armed forces members living at home). Please count income BEFORE TAXES and from all sources (such as wages, salaries, tips, net income from a business, interest, dividends, child support, alimony, Social Security, public assistance, pensions, and retirement benefits).

What was your total HOUSEHOLD income for the 12 months of 2020?

Less than $25,000	$25,000 to $34,999	$35,000 to $49,999	$50,000 to $74,999
$75,000 to $99,999	$100,000 to $149,999	$150,000 or more	Prefer not to answer

In which state do you live?

Alabama	Alaska	Arizona	Arkansas
California	Colorado	Connecticut	Delaware
Florida	Georgia	Hawaii	Idaho
Illinois	Indiana	Iowa	Kansas
Kentucky	Louisiana	Maine	Maryland
Massachusetts	Michigan	Minnesota	Mississippi
Missouri	Montana	Nebraska	Nevada
New Hampshire	New Jersey	New Mexico	New York
North Carolina	North Dakota	Ohio	Oklahoma

Massachusetts	Michigan	Minnesota	Mississippi
Missouri	Montana	Nebraska	Nevada
New Hampshire	New Jersey	New Mexico	New York
North Carolina	North Dakota	Ohio	Oklahoma
Oregon	Pennsylvania	Rhode Island	South Carolina
South Dakota	Tennessee	Texas	Utah
Vermont	Virginia	Washington	Washington, DC
West Virginia	Wisconsin	Wyoming	Other
Not in US			

This is a scroll down for the question shown on the previous page to show all of the states. Survey ended if selected "Other" or "Not in the US."

What is the highest level of school you have completed?

Less than high school	High school	Some college	Bachelor's degree or higher

How many dogs have you had in the past three years?

| None | 1 | 2 | 3 | 4 or more |

Survey ended if selected "None."

How old are your dog(s) currently?
(Please select all that apply)

| 0 – 2 years old | 3 – 5 years old | 6 – 8 years old | 9 – 11 years old | 12 – 15 years old | Over 15 years old | Deceased |

Number of categories the respondent is allowed to select depends on the number of dogs reported. For example, if the respondent reported 2 dogs in the past 3 years, then the respondent would not be allowed to select more than two categories for the question above.

Have you purchased dog food in the past 3 years?

Yes	No

Survey ended if selected "No."

For the dog food you purchased in the past three years which of the following statements are true?

(Please select all that apply)

I made the purchase decision myself	I was involved in the decision making	Someone else made the purchase decision

Survey ended if "Someone else" is the only selection.

What types of dog food have you purchased in the past three years?
(Please select all that apply)

Wet food	Dry food	Other Please specify

Survey ended if "Dry food" *not* selected.

Which of these dog food brands have you purchased, or have you considered purchasing in the past three years?

(Select the dog food brand even if you have purchased / considered a different flavor than the one shown. Please select all that apply.)

Acana
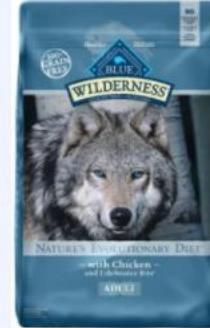
Blue

Blue Wilderness

Castor & Polloux Pristine-Raw Bites

Earthborn Natural

Fromm 4 Star

Fromm Gold

Go Sensitive

Earthborn Natural

Fromm 4 Star

Fromm Gold

Go Sensitive

GO! Fit and Free

Holistic Select

Instinct Original
Grain Free

None of the above

Note that this page covers the same question as the previous page, but it is scrolled down slightly to show rest of the bags.

Which of these dog food brands have you purchased, or have you considered purchasing in the past three years?

(Select the dog food brand even if you have purchased / considered a different flavor than the one shown. Please select all that apply.)

K9 Natural

Kirkland Signature
Nature's Domain

Merrick Backcountry

Merrick Classics

Merrick Grain Free

Natural Balance

Nature's Variety

NOW Fresh

K9 Natural	Kirkland Signature Nature's Domain	Merrick Backcountry	Merrick Classics
Merrick Grain Free	Natural Balance	Nature's Variety	NOW Fresh
NutriSource Grain Free	Nutro	Open Farm	None of the above

Note that this page covers the same question as the previous page, but it is scrolled down slightly to the rest of the bags.

Which of these dog food brands have you purchased, or have you considered purchasing in the past three years?

(Select the dog food brand even if you have purchased / considered a different flavor than the one shown. Please select all that apply.)
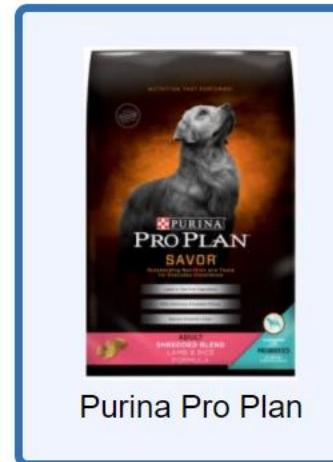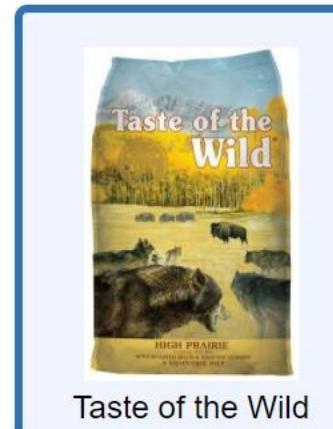
Orijen	Primal	Purina Pro Plan	Rawz
SOJO's Complete Beef	Stella & Chewy's	Taste of the Wild	Vital Essentials Limited Ingredient

Orijen

Primal

Purina Pro Plan
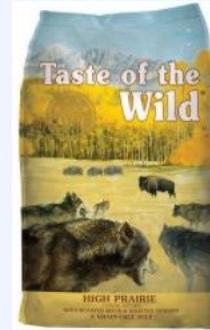
Rawz

SOJO's Complete Beef

Stella & Chewy's

Taste of the Wild

Vital Essentials Limited Ingredient

Wellness CORE

Zignature

None of the above

Note that this page covers the same question as the previous page, but it is scrolled down slightly to show the rest of the bags.

Must select at least one bag in this question or in the two previous questions to continue.

Please examine the image below of the front of a 25-pound dry dog food bag. The retail price of this dog food is $114.99/bag.

Each respondent was randomly assigned to see either Orijen images or Acana images. This and following pages show the Orijen bag images. Later, Acana images are shown.
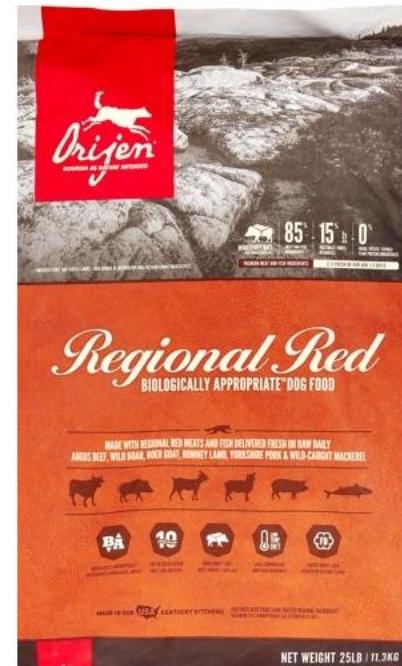
Roll over image to zoom.

Please confirm that you have reviewed the dog food image above.

| Yes, I reviewed the dog food bag. | No, I did not review the dog food bag. |

Must select "Yes" to continue.

Please examine the image below of the front of a 25-pound dry dog food bag. The retail price of this dog food is $114.99/bag.

This shows the front of the bag with a "magnifying glass" zoom feature that the respondent can move around to see different parts of the bag enlarged. This is what showed for those who were taking the survey on a PC / Laptop. For those taking the survey on a Smartphone, they were told that they could enlarge the image with their fingers.

Roll over image to zoom.

Please confirm that you have reviewed the dog food image above.

| Yes, I reviewed the dog food bag. | No, I did not review the dog food bag. |

Next, please examine the image below of the back of the dog food bag.

Roll over image to zoom.

Please confirm that you have reviewed the dog food image above.

Yes, I reviewed the dog food bag.	No, I did not review the dog food bag.

Must select "Yes" to continue.

Next, please examine the image below of the back of the dog food bag.

This shows the back of the bag with a "magnifying glass" zoom feature that the respondent can move around to see different parts of the bag enlarged. This is what showed for those who were taking the survey on a PC / Laptop. For those taking the survey on a Smartphone, they were told that they could enlarge the image with their fingers.

Roll over image to zoom.

Please confirm that you have reviewed the dog food image above.

Yes, I reviewed the dog food bag.	No, I did not review the dog food bag.

We are interested in your expectations as to the dog food you just viewed. Based on what you recall from the dog food packaging you just reviewed, please select the one response closest to your opinion. If you don't know or are not sure, please indicate so.

The scales here go from negative (Strongly Disagree) to positive (Strongly Agree), but respondents were randomly assigned to see either scales going from negative to positive or positive to negative.

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

From the "**Regional**" statements on the dog food shown, I would expect that...

The dog food shown does not contain imported ingredients.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

Each ingredient in the dog food shown is from the region where the food is made unless specifically stated otherwise on the packaging.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown does not contain any grains.

Strongly Disagree	Disagree	Neither Agree Nor	Agree	Strongly Agree	Don't know/ Unsure

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

Scroll down.

From the "**Regional**" statements on the dog food shown, I would expect that...

The dog food shown does not contain imported ingredients.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

Each ingredient in the dog food shown is from the region where the food is made unless specifically stated otherwise on the packaging.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown does not contain any grains.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

From the "**Biologically Appropriate**" statements on the dog food shown, I would expect that...

The dog food shown only contains fresh ingredients, unless specifically stated otherwise on the packaging.	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown does not contain heavy metals.	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food

Scroll down.

unless specifically stated otherwise on the packaging.	Strongly Disagree	Disagree	Agree Nor Disagree	Agree	Strongly Agree	know/ Unsure

The dog food shown does not contain heavy metals.	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure
The dog food shown does not contain BPA (Bisphenol A).	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure
The dog food shown has high palatability.	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure
The dog food shown does not contain pentobarbital.	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

From the "**Fresh**" statements on the dog food shown, I would expect that...

The dog food shown does not contain any reground dog food (dog food previously manufactured by this manufacturer but that did not meet its specifications for sale).

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown is formulated to resemble what dogs would eat in the wild.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown contains only fresh ingredients unless specifically stated otherwise on the packaging.

Strongly		Neither		Strongly	Don't know/

Scroll down.

The dog food shown does not contain any reground dog food (dog food previously manufactured by this manufacturer but that did not meet its specifications for sale).

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown is formulated to resemble what dogs would eat in the wild.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown contains only fresh ingredients unless specifically stated otherwise on the packaging.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown does not contain any expired ingredients.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

All else equal, does each label below make you more or less likely to purchase the dog food shown?

For each statement, please select the one response closest to your opinion)

| Far less likely | Less likely | Same | More likely | Far more likely |

Scroll down.

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

All else equal, does each label below make you more or less likely to purchase the dog food shown?
(For each statement, please select the one response closest to your opinion)

LOW TEMPERATURE
PREMIUM DRIED RED MEAT AND FISH INGREDIENTS

CONVENTIONAL MEAT MEALS ARE RENDERED AT HIGH TEMPERATURES
FROM ANIMAL BY-PRODUCTS UNFIT FOR HUMAN CONSUMPTION.

ORIJEN features dried meals and fish prepared at 200°F from fresh ingredients
deemed fit for human consumption – concentrating their goodness into a rich
source of protein that cannot be supplied by fresh meats alone.

| Far less likely | Less likely | Same | More likely | Far more likely |

NOURISH AS NATURE INTENDED

| Far less likely | Less likely | Same | More likely | Far more likely |

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

All else equal, does each label below make you more or less likely to purchase the dog food shown?
(For each statement, please select the one response closest to your opinion)

FRESH INGREDIENTS

We focus on ingredients delivered to our kitchens fresh or raw each day.

| Far less likely | Less likely | Same | More likely | Far more likely |

FRESH REGIONAL INGREDIENTS

GROWN CLOSE TO HOME – We focus on local ingredients that are ethically raised by people we know and trust, and delivered to our kitchens each day.

| Far less likely | Less likely | Same | More likely | Far more likely |

Scroll down.

FRESH INGREDIENTS

We focus on ingredients delivered to our kitchens fresh or raw each day.

Far less likely	Less likely	Same	More likely	Far more likely

FRESH REGIONAL INGREDIENTS

GROWN CLOSE TO HOME – We focus on local ingredients that are ethically raised by people we know and trust, and delivered to our kitchens each day.

Far less likely	Less likely	Same	More likely	Far more likely

REGIONAL INGREDIENTS

GROWN CLOSE TO HOME – We focus on local ingredients delivered to our kitchens fresh or raw each day.

Far less likely	Less likely	Same	More likely	Far more likely

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

All else equal, does each label below make you more or less likely to purchase the dog food shown?

(For each statement, please select the one response closest to your opinion)

| Far less likely | Less likely | Same | More likely | Far more likely |

All else equal, does each label below make you more or less likely to purchase the dog food shown?
(For each statement, please select the one response closest to your opinion)

Scroll down.

WHOLEPREY™ DIET

MEAT | ORGANS | CARTILAGE

IN HER INFINITE WISDOM, MOTHER NATURE MATCHED THE NUTRIENTS IN WHOLE PREY ANIMALS TO PERFECTLY MEET YOUR DOG'S DIETARY NEEDS.

Made with richly nourishing ratios of fresh meats, organs, cartilage and fresh whole fish, ORIJEN provides a concentrated source of virtually every nutrient your dog needs to thrive, naturally, without long lists of synthetic supplements, so only zinc is added.

| Far less likely | Less likely | Same | More likely | Far more likely |

BIOLOGICALLY APPROPRIATE™

ORIJEN mirrors the richness, freshness and variety of meals that dogs are evolved to eat.

| Far less likely | Less likely | Same | More likely | Far more likely |

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

With regard to the dog food bag shown, if one or more of the following were true, would you be more or less likely to purchase the dog food, all else equal?

(For each, please select the one response closest to your opinion)

Does not contain regrinds	Far less likely	Less likely	Same	More likely	Far more likely
Does not contain pentobarbital	Far less likely	Less likely	Same	More likely	Far more likely
Does not contain heavy metals	Far less likely	Less likely	Same	More likely	Far more likely
Does not contain expired ingredients	Far less likely	Less likely	Same	More likely	Far more likely

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

Scroll down.

With regard to the dog food bag shown, if one or more of the following were true, would you be more or less likely to purchase the dog food, all else equal?

(For each, please select the one response closest to your opinion)

Does not contain regrinds	Far less likely	Less likely	Same	More likely	Far more likely
Does not contain pentobarbital	Far less likely	Less likely	Same	More likely	Far more likely
Does not contain heavy metals	Far less likely	Less likely	Same	More likely	Far more likely
Does not contain expired ingredients	Far less likely	Less likely	Same	More likely	Far more likely
Does not contain BPA	Far less likely	Less likely	Same	More likely	Far more likely

Please examine the image below of the front of a 25-pound dry dog food bag. The retail price of this dog food is $66.99/bag.

This page and following pages show the Acana images for respondents who were randomly assigned to Acana rather than Orijen.

Roll over image to zoom.

Please confirm that you have reviewed the dog food image above.

| Yes, I reviewed the dog food bag. | No, I did not review the dog food bag. |

Must select "Yes" to continue.

Please examine the image below of the front of a 25-pound dry dog food bag. The retail price of this dog food is $66.99/bag.

This shows the front of the bag with a "magnifying glass" zoom feature that the respondent can move around to see different parts of the bag enlarged. This is what showed for those who were taking the survey on a PC / Laptop. For those taking the survey on a Smartphone, they were told that they could enlarge the image with their fingers.

Roll over image

Please confirm that you have reviewed the dog food image above.

| Yes, I reviewed the dog food bag. | No, I did not review the dog food bag. |

Next, please examine the image below of the back of the dog food bag.

Roll over image to zoom.

Please confirm that you have reviewed the dog food image above.

Yes, I reviewed the dog food bag.	No, I did not review the dog food bag.

Must select "Yes" to continue.

Next, please examine the image below of the back of the dog food bag.

This shows the back of the bag with a "magnifying glass" zoom feature that the respondent can move around to see different parts of the bag enlarged. This is what showed for those who were taking the survey on a PC / Laptop. For those taking the survey on a Smartphone, they were told that they could enlarge the image with their fingers.

Please confirm that you have reviewed the dog food image above.

| Yes, I reviewed the dog food bag. | No, I did not review the dog food bag. |

We are interested in your expectations as to the dog food you just viewed. Based on what you recall from the dog food packaging you just reviewed, please select the one response closest to your opinion. If you don't know or are not sure, please indicate so.

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

From the "**Biologically Appropriate**" statements on the dog food shown, I would expect that...

The dog food shown does not contain pentobarbital.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown does not contain BPA (Bisphenol A).

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown only contains fresh ingredients, unless specifically stated otherwise on the packaging.

Strongly Agree	Disagree	Neither Agree Nor	Agree	Strongly Agree	Don't know/ Unsure

Scroll down.

Disagree

The dog food shown does not contain BPA (Bisphenol A).

| Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree | Don't know/ Unsure |

The dog food shown only contains fresh ingredients, unless specifically stated otherwise on the packaging.

| Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree | Don't know/ Unsure |

The dog food shown does not contain heavy metals.

| Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree | Don't know/ Unsure |

The dog food shown has high palatability.

| Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree | Don't know/ Unsure |

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

From the "**Regional**" statements on the dog food shown, I would expect that...

The dog food shown does not contain any grains.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown does not contain imported ingredients.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

Each ingredient in the dog food shown is from the region where the food is made unless specifically stated otherwise on the packaging.

Strongly Disagree	Disagree	Neither Agree Nor	Agree	Strongly Agree	Don't know/ Unsure

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

Scroll down.

From the "**Regional**" statements on the dog food shown, I would expect that...

The dog food shown does not contain any grains.

| Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree | Don't know/ Unsure |

The dog food shown does not contain imported ingredients.

| Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree | Don't know/ Unsure |

Each ingredient in the dog food shown is from the region where the food is made unless specifically stated otherwise on the packaging.

| Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree | Don't know/ Unsure |

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

From the "**Fresh**" statements on the dog food shown, I would expect that...

The dog food shown does not contain any reground dog food (dog food previously manufactured by this manufacturer but that did not meet its specifications for sale).

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown is formulated to resemble what dogs would eat in the wild.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown does not contain any expired ingredients.

Strongly Disagree	Disagree	Neither Agree Nor	Agree	Strongly Agree	Don't know/ Unsure

Scroll down.

The dog food shown does not contain any reground dog food (dog food previously manufactured by this manufacturer but that did not meet its specifications for sale).

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown is formulated to resemble what dogs would eat in the wild.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown does not contain any expired ingredients.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown contains only fresh ingredients unless specifically stated otherwise on the packaging.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

From the "**Delivering nutrients naturally**" statements on the dog food shown, I would expect that...

The dog food shown is specifically formulated for large breed dogs.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown does not contain pentobarbital.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

The dog food shown does not contain BPA (Bisphenol A).

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't know/ Unsure

From the **Delivering nutrients naturally** statements on the dog food shown, I would expect that...

The dog food shown is specifically formulated for large breed dogs.

| Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree | Don't know/ Unsure |

The dog food shown does not contain pentobarbital.

| Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree | Don't know/ Unsure |

The dog food shown does not contain BPA (Bisphenol A).

| Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree | Don't know/ Unsure |

The dog food shown does not contain heavy metals.

| Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree | Don't know/ Unsure |

Scroll down.

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

All else equal, does each label below make you more or less likely to purchase the dog food shown?
(For each statement, please select the one response closest to your opinion)

HIGH PALATABILITY
INFUSED WITH FREEZE-DRIED CHICKEN AND TURKEY LIVER

Far less likely	Less likely	Same	More likely	Far more likely

DELIVERING NUTRIENTS
NATURALLY

Scroll down.

All else equal, does each label below make you more or less likely to purchase the dog food shown?
(For each statement, please select the one response closest to your opinion)

HIGH PALATABILITY

INFUSED WITH FREEZE-DRIED CHICKEN AND TURKEY LIVER

| Far less likely | Less likely | Same | More likely | Far more likely |

DELIVERING NUTRIENTS
NATURALLY

| Far less likely | Less likely | Same | More likely | Far more likely |

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

All else equal, does each label below make you more or less likely to purchase the dog food shown?

(For each statement, please select the one response closest to your opinion)

Far less likely	Less likely	Same	More likely	Far more likely

Scroll down.

All else equal, does each label below make you more or less likely to purchase the dog food shown?
(For each statement, please select the one response closest to your opinion)

BIOLOGICALLY APPROPRIATE™

Our foods mirror the richness, freshness and variety of meats for which DOGS ARE EVOLVED TO EAT.

| Far less likely | Less likely | Same | More likely | Far more likely |

WHOLEPREY™ DIET

POULTRY | ORGANS | CARTILAGE

IN HER ETERNAL WISDOM, MOTHER NATURE MATCHED THE NUTRIENTS FOUND IN WHOLE PREY ANIMALS TO PERFECTLY MEET THE NEEDS OF YOUR DOG.

| Far less likely | Less likely | Same | More likely | Far more likely |

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

All else equal, does each label below make you more or less likely to purchase the dog food shown?

(For each statement, please select the one response closest to your opinion)

FRESH REGIONAL INGREDIENTS
We focus on fresh ingredients from our region that are ranched, farmed or fished by people we know and trust.

| Far less likely | Less likely | Same | More likely | Far more likely |

REGIONAL INGREDIENTS
We focus on ingredients from our region.

| Far less likely | Less likely | Same | More likely | Far more likely |

Scroll down.

FRESH REGIONAL INGREDIENTS

We focus on fresh ingredients from our region that are ranched, farmed or fished by people we know and trust.

Far less likely	Less likely	Same	More likely	Far more likely

REGIONAL INGREDIENTS

We focus on ingredients from our region.

Far less likely	Less likely	Same	More likely	Far more likely

FRESH INGREDIENTS

We focus on fresh ingredients.

Far less likely	Less likely	Same	More likely	Far more likely

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

With regard to the dog food bag shown, if one or more of the following were true, would you be more or less likely to purchase the dog food, all else equal?

(For each, please select the one response closest to your opinion)

Does not contain pentobarbital	Far less likely	Less likely	Same	More likely	Far more likely
Does not contain regrinds	Far less likely	Less likely	Same	More likely	Far more likely
Does not contain expired ingredients	Far less likely	Less likely	Same	More likely	Far more likely
Does not contain BPA	Far less likely	Less likely	Same	More likely	Far more likely

If you would like to look at the front and back of the dog food again, click/touch on its image and a large image will appear for you to examine.

Scroll down.

With regard to the dog food bag shown, if one or more of the following were true, would you be more or less likely to purchase the dog food, all else equal?

(For each, please select the one response closest to your opinion)

Does not contain pentobarbital	Far less likely	Less likely	Same	More likely	Far more likely
Does not contain regrinds	Far less likely	Less likely	Same	More likely	Far more likely
Does not contain expired ingredients	Far less likely	Less likely	Same	More likely	Far more likely
Does not contain BPA	Far less likely	Less likely	Same	More likely	Far more likely
Does not contain heavy metals	Far less likely	Less likely	Same	More likely	Far more likely

Did you have a clear understanding of the questions in this survey?

Yes	No

Briefly describe what was not understandable:

The explanation box appears if "No" is selected.

Finally, do you have any additional feedback you would like to share with us? **This question is entirely optional**.

5000 characters remaining.

None

Those are all of our questions, you have completed the survey. Thank you for participating in this online study!

Appendix 2 Pre-Test Interview Results

Follow up to Survey 1: Acana Misrepresentation

Telephone Interview

The purpose of this telephone interview is to check respondents overall understanding of the survey and understanding of specific terms used in the survey.

Introduction

Thank you for your online participation of the dog food survey you took [[insert date]]. Today we are following up to check your overall understanding of the survey and the terms used in the survey.

Questions

1. The first set of questions asked about general demographics of you and your household. Did you have a clear understanding of the questions asked with respect to demographics?

    ☐ Yes - 10 respondents

    ☐ No - 0 respondents

        ☐ If no, which part was not understandable?

    ☐ I don't remember - 0 respondents

2. The next set of questions asked about your dog food purchase history including brands you purchased from. Did you have a clear understanding of the questions asked with respect to your dog food purchase history?

    ☐ Yes - 10 respondents

    ☐ No - 0 respondents

        ☐ If no, which part was not understandable?

    ☐ I don't remember - 0 respondents

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3. Next, you were shown the front and back photos of a dog food bag then introduced to a choice exercise where you chose your preferred dog food. Did you have a clear understanding of the instructions in this section?

- ☐ Yes - 10 respondents
- ☐ No - 0 respondents
  - ☐ If no, which part was not understandable?
- ☐ I don't remember - 0 respondents

4. Did you have a clear understanding of the attributes presented in the choice exercise? The attributes were (1) Biologically Appropriate, (2) WholePrey Diet (3) High Palatability, (4) Ingredient Sourcing such as "Fresh and Regional Ingredients," (5) "Delivering Nutrients Naturally," and (6) Price.

- ☐ Yes - 10 respondents
- ☐ No - 0 respondents
  - ☐ If no, which part was not understandable?
- ☐ I don't remember - 0 respondents

5. Consider all the materials and questions presented in the survey. Did you have clear understanding of the questions in the survey?

- ☐ Yes - 10 respondents
- ☐ No - 0 respondents
  - ☐ If no, which part was not understandable?
- ☐ I don't remember - 0 respondents

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6. This survey had several screens that asked you to choose one preferred option. Have you participated in a similar formatted survey before?

    ☐ Yes - 7 respondents

        ☐ If yes, how many? _____

        "Similar, but it has been a while."

        "I don't know."

        "3"

        "5 or 6"

        "Been doing surveys a long time, so a lot."

        "Done some before"

        "20"

    ☐ No - 3 respondents

    ☐ I don't remember

7. Finally, do you have any additional feedback you would like to share with us with respect to survey understanding? Your response is optional.

"It was easy."

"No, none"

"No, dogs are wonderful friends."

"No"

"No, it was all high-end dog food."

"Not as long as some surveys with this type of choice exercise. Enjoyable because I have a dog and I'll pay a higher price for certain benefits."

"No, it was good."

"No, it was a good survey. One of my dogs has diabetes, so I purchase special dog food."

"No, it was very good."

"No, very good survey."

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Follow up to Survey 2: Acana Omissions

Telephone Interview

The purpose of this telephone interview is to check respondents overall understanding of the survey and understanding of specific terms used in the survey.

Introduction

Thank you for your online participation of the dog food survey you took [[insert date]]. Today we are following up to check your overall understanding of the survey and the terms used in the survey.

Questions

1. The first set of questions asked about general demographics of you and your household.

    Did you have a clear understanding of the questions asked with respect to demographics?

    - ☐ Yes - 10 respondents
    - ☐ No - 0 respondents
        - ☐ If no, which part was not understandable?
    - ☐ I don't remember - 0 respondents

2. The next set of questions asked about your dog food purchase history. Did you have a clear understanding of the questions asked with respect to your dog food purchase history?

    - ☐ Yes - 10 respondents
    - ☐ No - 0 respondents
        - ☐ If no, which part was not understandable?
    - ☐ I don't remember - 0 respondents

PRIVILEGED AND CONFIDENTIAL ATTORNEY WORK-PRODUCT

3. Next, you were introduced to a choice exercise. You were asked to select your preference for dog food between two options. Did you have a clear understanding of the instructions for that section?

  ☐ Yes - 10 respondents

  ☐ No - 0 respondents

      ☐ If no, which part was not understandable?

  ☐ I don't remember - 0 respondents

4. Did you have a clear understanding of the different attributes presented in the choice exercise? The attributes were (1) Artificial Preservatives, (2) Expired Ingredients, (3) Heavy Metals, (4) BPA, (5) Regrinds, and (6) Price.

  ☐ Yes - 10 respondents

  ☐ No - 0 respondents

      ☐ If no, which part was not understandable?

  ☐ I don't remember - 0 respondents

5. Consider all the materials and questions presented in the survey. Did you have clear understanding of the questions in the survey?

  ☐ Yes - 10 respondents

  ☐ No - 0 respondents

      ☐ If no, which part was not understandable?

  ☐ I don't remember - 0 respondents

PRIVILEGED AND CONFIDENTIAL ATTORNEY WORK-PRODUCT

6. This survey had several screens that asked about preferences. Have you participated in a similar formatted survey before?

    ☐ Yes - 7 respondents

        ☐ If yes, how many? _____

        "Probably a couple times"

        "Couldn't tell you, I do a lot of surveys."

        "Couple of times"

        "Maybe 3"

        "20 to 25"

        "4 or 5"

        "5"

    ☐ No - 3 respondents

    ☐ I don't remember - 0 respondents

7. Finally, do you have any additional feedback you would like to share with us with respect to survey understanding? Your response is optional.

"Yes, usually I hate that type of choice exercise, but I liked this one because it was easier and clear."

"No"

"All good"

"No, I do not."

"No, I think it was done well."

"No

"No, I was just taken aback that expired ingredients would be in dog food. I read my dog food package like a hawk to make sure it is good."

"No"

"I thought it was fine. I just wouldn't want any of that in my dog food. The choice exercise was like picking the lesser of the evils, subject to price."

"No"

Appendix 3
Demographics of Survey Respondents

Category	Label	Survey 1: Misrepresentation		Survey 2: Omission		Total	
		Count	Share	Count	Share	Count	Share
Gender	Male	256	45.1	275	49.2	531	47.1
	Female	312	54.9	284	50.8	596	52.9
Age	18 - 29	57	10	60	10.7	117	10.4
	30 - 44	160	28.2	188	33.6	348	30.9
	45 - 59	80	14.1	161	28.8	241	21.4
	60 or higher	271	47.7	150	26.8	421	37.4
	Below 18						
Household Income	Less than $25,000	84	14.8	59	10.6	143	12.7
	$25,000 to $34,999	72	12.7	61	10.9	133	11.8
	$35,000 to $49,999	60	10.6	62	11.1	122	10.8
	$50,000 to $74,999	100	17.6	90	16.1	190	16.9
	$75,000 to $99,999	75	13.2	73	13.1	148	13.1
	$100,000 to $149,999	83	14.6	108	19.3	191	16.9
	$150,000 or more	67	11.8	88	15.7	155	13.8
	Prefer not to answer	27	4.8	18	3.2	45	4
Education	Less than high school	7	1.2	10	1.8	17	1.5
	High school	106	18.7	95	17	201	17.8
	Some college	176	31	176	31.5	352	31.2
	Bachelor's degree or higher	279	49.1	278	49.7	557	49.4
Pet Information	1	327	57.6	301	53.8	628	55.7
	2	152	26.8	174	31.1	326	28.9
	3	62	10.9	52	9.3	114	10.1
	4 or more	27	4.8	32	5.7	59	5.2
	None						
Clear Understanding	Yes	562	98.9	553	98.9	1,115	98.9
	No	6	1.1	6	1.1	12	1.1
Awareness of Lawsuit	I am aware of at least one lawsuit	84	14.8	123	22	207	18.4
	I am not aware of any lawsuits	383	67.4	342	61.2	725	64.3
	Don't know / Unsure	101	17.8	94	16.8	195	17.3
Champion & NY	Champion Purchasers	79	13.9	89	15.9	168	14.9
	New York Residents	168	29.6	167	29.9	335	29.7
	Champion Purchasers & NY Resident	37	6.5	38	6.8	75	6.7

Appendix 4
Economic Loss for
Combinations of
Claims

Survey	Attribute	Lower Bound	Economic Value	Upper Bound
Survey 1: Acana Misrepresentation	Biologically Appropriate	6.43	9.51	12.49
	Nourish	8.68	11.76	14.74
	Biologically Appropriate, Nourish	14.55	20.15	25.38
	Fresh	9.78	13.97	17.97
	Biologically Appropriate, Fresh	15.58	22.15	28.22
	Nourish, Fresh	17.6	24.09	30.06
	Biologically Appropriate, Nourish, Fresh	22.9	31.31	38.79
	Fresh & Regional	9.92	14.11	18.11
	Biologically Appropriate, Fresh & Regional	15.71	22.28	28.34
	Nourish, Fresh & Regional	17.74	24.21	30.18
	Biologically Appropriate, Nourish, Fresh & Regional	23.03	31.42	38.9
	Regional	7.4	11.63	15.67
	Biologically Appropriate, Regional	13.35	20.04	26.2
	Nourish, Regional	15.43	22.02	28.1
	Biologically Appropriate, Nourish, Regional	20.87	29.44	37.08
Survey 2: Acana Omission	Expired	25.48	28.71	31.8
	Heavy Metals	54.18	57.82	61.16
	Expired, Heavy Metals	65.86	69.93	73.51
	BPA	35.32	38.73	41.96
	Expired, BPA	51.81	56.32	60.41
	Heavy Metals, BPA	70.37	74.15	77.46
	Expired, Heavy Metals, BPA	77.92	81.57	84.62
	Regrinds	11.38	14.48	17.47
	Expired, Regrinds	33.97	39.04	43.71
	Heavy Metals, Regrinds	59.4	63.92	67.95
	Expired, Heavy Metals, Regrinds	69.75	74.28	78.14
	BPA, Regrinds	42.69	47.6	52.1
	Expired, BPA, Regrinds	57.29	62.65	67.33
	Heavy Metals, BPA, Regrinds	73.74	77.9	81.39